STM JOURNALS

Research & Reviews: A Journal of
Neuroscience

https://journals.stmjournals.com/rrjons/

ISSN: 2277-6427 (Online)
ISSN: 2348-7925 (Print)
Volume 16, Issue 1, 2026
January–April
DOI (Journal): 10.37591/RRJoNS

Review RRJoNS

Scientometric Insights and Meta-Analysis of Japanese Encephalitis Research in India

Mahender Pratap Singh[1], Arshiya[2,*], Pinky Bhagat[2], Komal Gupta[2]

Abstract

Japanese Encephalitis (JE) represents India's critical public health issue, contributing significantly to regional morbidity and mortality. This study details the findings from a scientometric analysis of JE research conducted in India. Our study analyzed scientific publications to uncover trends, key contributors, gaps, and the thematic evolution within JE research, providing insights critical for shaping future research and policy directions. A comprehensive scientometric analysis of research on JE published in India has been conducted to analyze leading authors, institutions, publishers, and research trends over time. Our scientometric analysis utilized comprehensive data from the Web of Science and 463 articles downloaded. Indian Journal of Medical Research and Journal of Vector-Borne Diseases have the highest number of published articles. The All-India Institute of Medical Sciences had the maximum number of publications. Kalita, Jayantee Misra, and Usha Kant were the leading authors of publications about leukemia research in India. Keyword analysis revealed that Viruses, infections, diagnoses, children, and cells were the main research hotspots in all publications in the area. Indian Council of Medical Research (ICMR) and The Department of Biotechnology (DBT) were the major funders in the JE research publications in India. This study provides a valuable resource for policymakers, researchers, and public health authorities combating JE by providing a holistic view of the JE research trajectory and its practical implications.

Keywords: India, insights into JE, Japanese encephalitis, JE, JE's epidemiology, meta-analysis, scientometric analysis

INTRODUCTION

Japanese Encephalitis (JE) is a zoonotic disease caused by an arbovirus, transmitted primarily by Culex mosquitoes that breed in flooded rice fields. Humans become infected through the bite of these mosquitoes, leading to rapid onset symptoms, such as high fever, headache, neck stiffness, disorientation, coma, seizures, spastic paralysis, and, in severe cases, death. The fatality rate ranges from 10–40%, and survivors often experience long-term neurological complications. Predominantly affecting young children in JE-endemic areas, this disease is a leading cause of viral encephalitis and disability in Asia, with 30,000–50,000 cases reported annually [1, 2]. The spread of JE is closely associated with irrigated rice farming and pig rearing. Vaccines have been available since the 1940s; however, access remains limited in poorer Asian countries due to cost and low awareness. An affordable live-attenuated vaccine used in China has proven effective but is not available widely. While vaccination has greatly reduced JE incidence in some high-burden regions, coverage remains insufficient in many areas still heavily impacted. Mortality rates for JE hover around 20–30%, with 30–50% of survivors enduring lasting neurological effects [3–6].

***Author for Correspondence**
Arshiya
E-mail: sheikh.arshi786@gmail.com

[1]Professor and Dean, Department of Library and Information Science, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India
[2]Ph.D. Research Scholar, Department of Library and Information Science, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India

Received Date: February 04, 2026
Accepted Date: February 11, 2026
Published Date: March 19, 2026

Citation: Mahender Pratap Singh, Arshiya, Pinky Bhagat, Komal Gupta. Scientometric Insights and Meta-Analysis of Japanese Encephalitis Research in India. Research & Reviews: A Journal of Neuroscience. 2026; 16(1): 41–53p.

THEMATIC REVIEW OF LITERATURE ON JAPANESE ENCEPHALITIS (JE)

Mortality and Morbidity Estimates

Cheng and colleagues highlight the urgent need for updated estimates of mortality and morbidity associated with Japanese Encephalitis (JE). Their systematic review highlights significant gaps in recent data, as previous studies relied on outdated information, which complicates understanding the disease's true burden [7–9].

Research Output and Trends

An analysis of 2,496 Japanese encephalitis publications indexed in Scopus from 2003 to 2012 showed a steady annual growth rate of 7.41%. Their findings emphasize that the top ten countries contributed nearly 89% of the total output, underscoring the global collaboration in JE research. Medicine was the dominant field, accounting for 65.06% of publications. A bibliometric analysis of 3,023 publications from 1934 to 2020 shows a growing research interest, particularly from the USA and several Asian countries.

Collaborative Research Landscape

The collaborative nature of JE research is examined by Garg and Dwivedi, who found that about two-thirds of the papers resulted from joint efforts. Their study reveals a significant increase in collaborative publications, especially between the USA, Japan, Taiwan, and India. This emphasis on collaboration points to a concerted effort to tackle JE globally, with local partnerships also contributing to research output.

Impact of Vaccination

Sean M. Moore's study comprehensively analyzes JE's burden and the impact of vaccination strategies. Despite the under-reporting of cases, the research highlights the effectiveness of increased vaccination coverage, which has significantly reduced the number of cases and deaths. The findings indicate that while India bears the highest burden, countries like China and Taiwan have significantly reduced JE incidence through vaccination. This underscores the critical need for targeted vaccination efforts in high-risk regions [10].

Despite the significant body of literature on Japanese Encephalitis (JE), several gaps remain in the scientometric analysis of research conducted explicitly in India. While previous studies have provided valuable insights into the global landscape of JE research, they do not specifically focus on India's contributions and trends. So, this study tries to fill that specific gap and provide a more comprehensive understanding of the dynamics of JE research in India [11].

OBJECTIVES OF THE STUDY

The main objective of this study is to analyze India's research performance in Japanese Encephalitis based on publications output, as indexed in the Web of Science database. In particular, the study focuses on the following objectives [12–14]:

- To assess India's publication output on Japanese Encephalitis (JE) and analyze the trends.
- To analyze citation patterns of Indian JE research outputs and identify the most highly cited papers within this domain.
- To identify the most contributing funding agencies in India regarding JE research.
- To assess the role of various publishers in the prevalence of JE research.
- To analyze the distribution of Indian research output across major subject areas and identify key keywords.
- To examine the distribution of research papers by document type.
- To assess the productivity of the most active institutions.
- To identify the most prolific authors and evaluate their citation impact.
- To evaluate the publication productivity of leading Journals titles.

METHODOLOGY

The study's data source was a Clarivate product called Web of Science Core Collection. The keywords field 'JAPANESE ENCEPHALITIS' in the TOPIC field and INDIA in the "ADDRESS," were used to retrieve the data with no restrictions on the time, encompassing all articles published in India since the inception of the database [15].

The first four articles on Japanese Encephalitis were published in 1975 by Indian authors, so the study period was considered from 1975 to 2024. The search strategy yielded 463 records, including all original research articles, reviews, meeting abstracts, editorials, etc., on 31st July 2024 that dealt with different aspects of JE research.

Thus, the total number of papers included in the analysis was 463 published in India. The retrieved data were exported to Microsoft Excel and R-Studio (Biblioshiny) for descriptive analysis. All retrieved entries were screened, and items that did not fit the analysis context were excluded. The authorship trends, institutional affiliation, publication stage, and sources of publications are presented.

DATA ANALYSIS

The synthesized findings from this data retrieved are presented here, offering a detailed overview of the research landscape on JE in India. This analysis will be crucial for informing policy decisions, optimizing resource allocation for JE research, and guiding future studies to address the gaps in our understanding of JE.

Table 1 showcases a strong emphasis on original research, with 419 articles comprising most of the documents. Review articles (26) and notes (10) contribute by summarizing existing knowledge and presenting concise findings. Meeting abstracts (5) and early access entries (3) reflect preliminary dissemination of research, while letters (2) and editorial material (1) are rare, indicating limited scholarly dialogue and editorial perspectives. Overall, the dataset predominantly focuses on publishing comprehensive research, with some variety in shorter and specialized document types.

Table 1. Type of documents.

Types of articles	No of articles	Percentage
Article	419	90.50%
Review Article	26	5.62%
Note	10	2.16%
Meeting Abstract	5	1.08%
Early Access	3	0.65%
Total	463	100.00%

The figure presents the year-wise distribution of publications on Japanese encephalitis (JE), highlighting research trends over time. The earliest publication dates back to 1975, and since then, there has been a fluctuating yet generally upward trend in research output.

Notably, the number of publications peaks in 2022 (32 articles), showing a heightened interest or increased research efforts in recent years. From 2018 to 2023, there has been a consistent level of interest, with publication numbers ranging between 15 and 32 per year. The early 2000s and 1990s saw lower, more stable figures, typically in single digits.

The significant increase in publications post-2000 may reflect global efforts to address JE due to its public health impact, improvements in scientific methods, or greater awareness of mosquito-borne diseases (Figure 1).

The figure provides data on the number of articles, total citations, and the average citations per year for research on Japanese Encephalitis from 1975 to 2024. India's research output on Japanese

Encephalitis (JE) has remarkably grown in publications and citations. The number of citations received (14802) by Indian publications (463) in Japanese encephalitis since their first publication in the year (1975 onwards) was studied till July 2024. The trend highlights a significant rise in research activity post-2010, peaking in 2022 with 32 articles (1,748 citations) and an average citation per year reaching 54.62, reflecting recent studies' high quality and global relevance. The period between 2020 and 2024 demonstrates consistently high citation rates, underscoring India's growing influence. While the pre-2000 period had modest outputs and citation rates, the last two decades marked a significant advancement, positioning India as a key player in JE research globally. This progress reflects enhanced research productivity, international collaboration, and the increasing recognition of India's contributions to tackling this critical health issue (Figure 2 & Table 2).

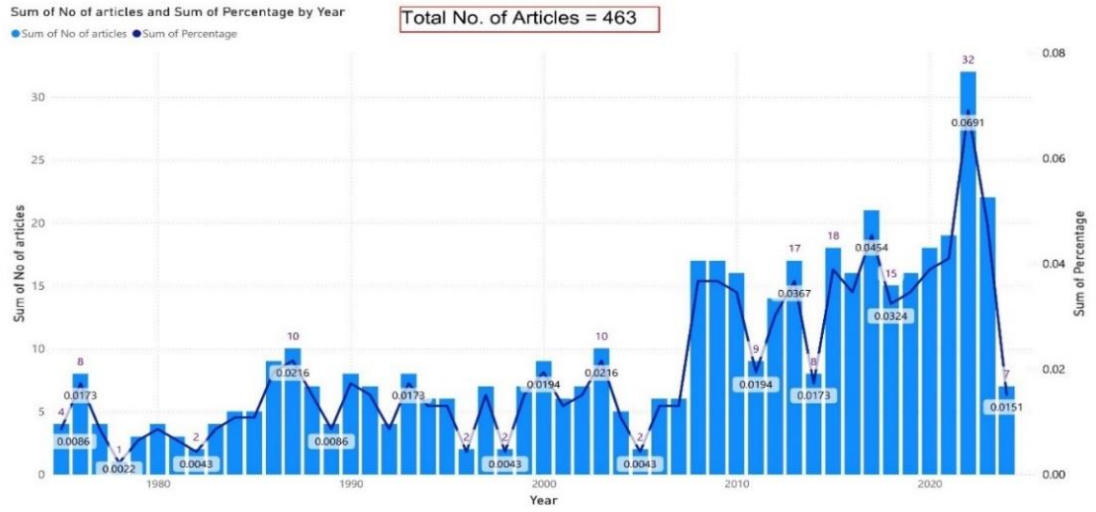

Figure 1. Annual distribution of articles.

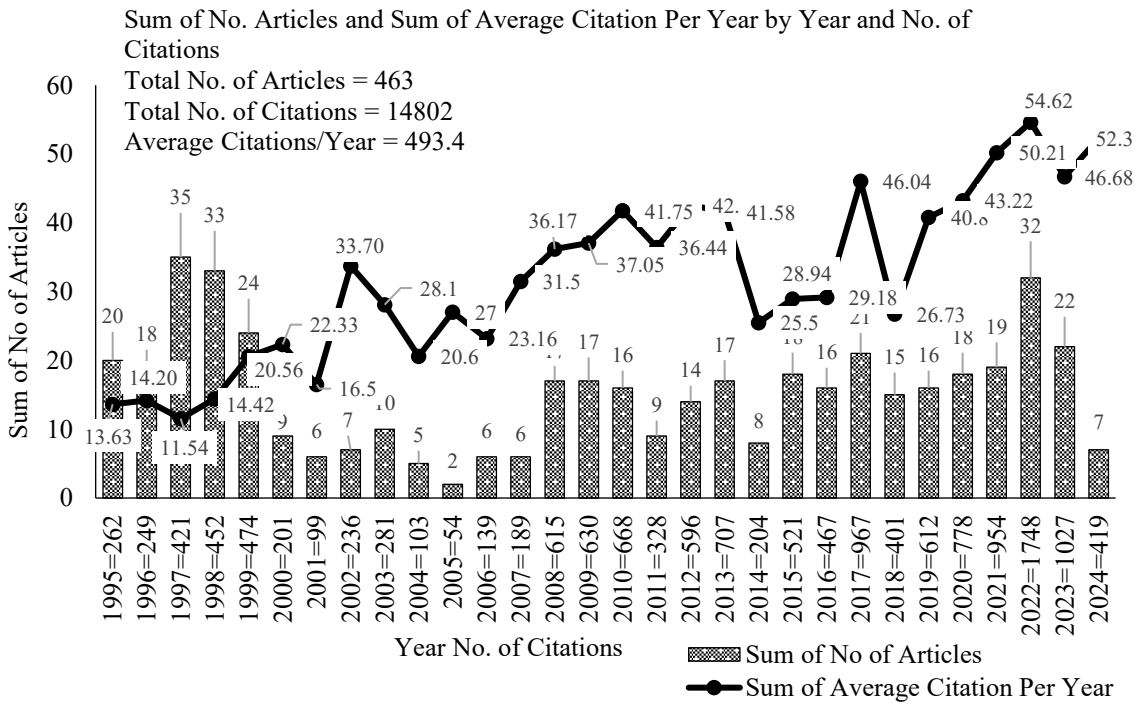

Figure 2. Output of publications and citations.

Table 2. Productivity and citation impact of the most productive authors.

Author	Total no of publications	Total citation	Average citation per document	H-index
Kalita, Jayantee	36	1409	39.14	20
Misra, Usha Kant	35	1408	40.23	20
Banerjee, K.	25	247	9.88	9
Ghosh, SN	24	352	14.63	11
Basu, ANIRBAN	22	1324	60.18	18
Dhole, T. N.	17	269	15.82	9
Dhanze, Himani	17	76	4.47	6
Gore, Milind M.	16	310	19.38	9
Geevarghese, Gejo Anna	12	266	22.17	10
Thenmozhi, Velayutham	12	332	27.67	9
Bondre, Vijay P.	12	88	7.33	6
Vasanthapuram, Ravi	10	385	38.5	10
Bhat, Hans Raj	10	157	15.7	9
De Alencar Rodrigues, Fabiolla Maria	10	121	12.1	6
Total	258	6744	23.37	10.85
Total Indian Papers	463			
Share of 14 Authors	55.7%			

This Table 2 displays the research output, citations received, h-index values, and publication profiles of the most productive 14 Indian authors – especially those with over 10 published works.

Kalita Jayantee and Misra Usha Kant lead with 36 and 35 articles, respectively, highlighting their dominant role in the field. They are followed by Banerjee, K. (25 articles) and Ghosh, SN (24 articles), who also make significant contributions. Basu, Anirban (22 articles), Dhole, T. N. and Dhanze, Himani (17 articles each) represent a notable share of the research output. Authors like Gore, Milind M. (16 articles), Geevarghese, Gejo Anna, Thenmozhi, Velayutham, and Bondre, Vijay P. (12 articles each) play important roles. In contrast, Vasanthapuram, Ravi, Bhat, Hans Raj, and De Alencar Rodrigues, Fabiolla Maria (10 articles each) contribute with steady research efforts.

The table reveals a concentration of publications among a few prolific authors, reflecting their substantial impact on the academic study of Japanese Encephalitis.

India's publication output in JE research has been published in the context of different subfields (as reflected in database classification based on the journal-title subject), with the highest publication output coming from Immunology (149 papers, 32.18% share), followed by General Internal Medicine (112 papers, 24.19% share), Research Experimental Medicine (105 papers, 22.67% share), Neurosciences Neurology (72 papers, 15.55% share) as shown in figure which represents the research areas that have contributed more than 10 articles to the study of Japanese Encephalitis (JE).

Virology (59 articles) and Infectious Diseases (55 articles) underline the importance of viral mechanisms and disease transmission. Research in Tropical Medicine (52 articles) underscores JE's prevalence in tropical regions, particularly Asia.

This diverse distribution reflects a comprehensive approach to understanding and combating JE through multiple disciplines (Figure 3).

The table analyzes institutional contributions to research on Japanese Encephalitis (JE), showcasing the leading research organizations in India. Indian Council of Medical Research (ICMR) is the dominant

contributor with 172 articles, indicating its central role in JE research and public health initiatives. The ICMR National Institute of Virology (NIV) follows with 108 articles, showcasing its expertise in virology and vector-borne diseases. Other key contributors include the Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS) (58 articles) and the Department of Biotechnology (DBT) (40 articles), focusing on clinical and biotechnological approaches. Contributions from King George's Medical University (23 articles), Council of Scientific and Industrial Research (CSIR) (16 articles), and Defense Research and Development Organization (DRDO) (13 articles) indicate the interdisciplinary approach to JE research, ranging from clinical and experimental studies to defense-related health initiatives. The table demonstrates India's robust interdisciplinary commitment to JE research (Figure 4).

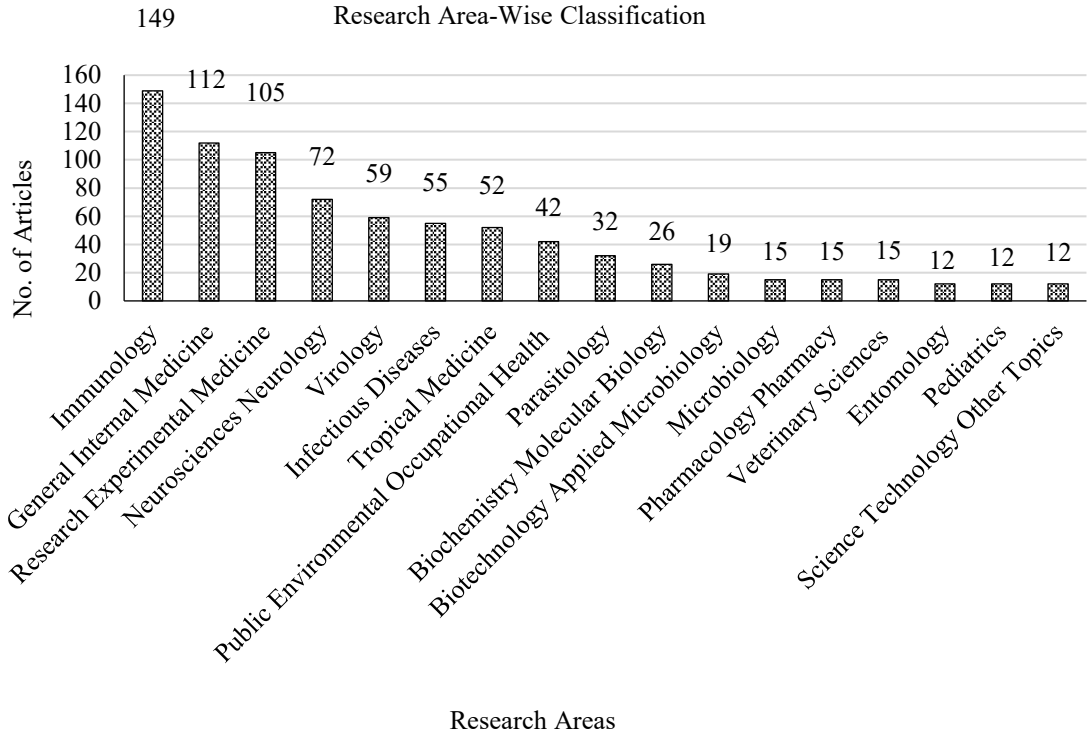

Figure 3. Research areas-wise classification of JE research.

The 13 most productive journals publishing Indian research papers in Japanese Encephalitis (JE) research together contributed 204 papers, which accounts for 44.06% share of the total output of India, reflecting the diversity of research dissemination across various scientific journals. The Indian Journal of Medical Research leads with 86 articles, showcasing its role as a prominent platform for JE-related studies, particularly in the Indian context. The Journal of Vector-Borne Diseases (21 articles) and Acta Virologica (19 articles) further emphasize the focus on virology and vector-borne infections. Specialized journals like the Indian Journal of Medical Research Section A: Infectious Diseases (17 articles) emphasize the focus on infectious diseases, while international journals, such as Vaccine (10 articles) and Journal of the Neurological Sciences (9 articles) highlight global interest, especially in vaccine development and neurological aspects of JE. Overall, the table reflects various research outputs across various disciplines, demonstrating the comprehensive nature of JE research efforts globally (Figure 5) [15].

The table highlights the distribution of journal types contributing to research on Japanese Encephalitis (JE). The table shows the types of journals contributing to Japanese Encephalitis (JE) research, with Open Access leading to 151 articles. Gold Open Access follows with 91 articles, and Green Open Access – spanning Green Published (86), Green Accepted (5), and Green Submitted (27) – reflects a

strong preference for self-archiving. Free to Read journals add 39 articles, and Gold-Hybrid journals, 4. This trend prioritizes open access to JE studies for broader scientific and public reach (Figure 6).

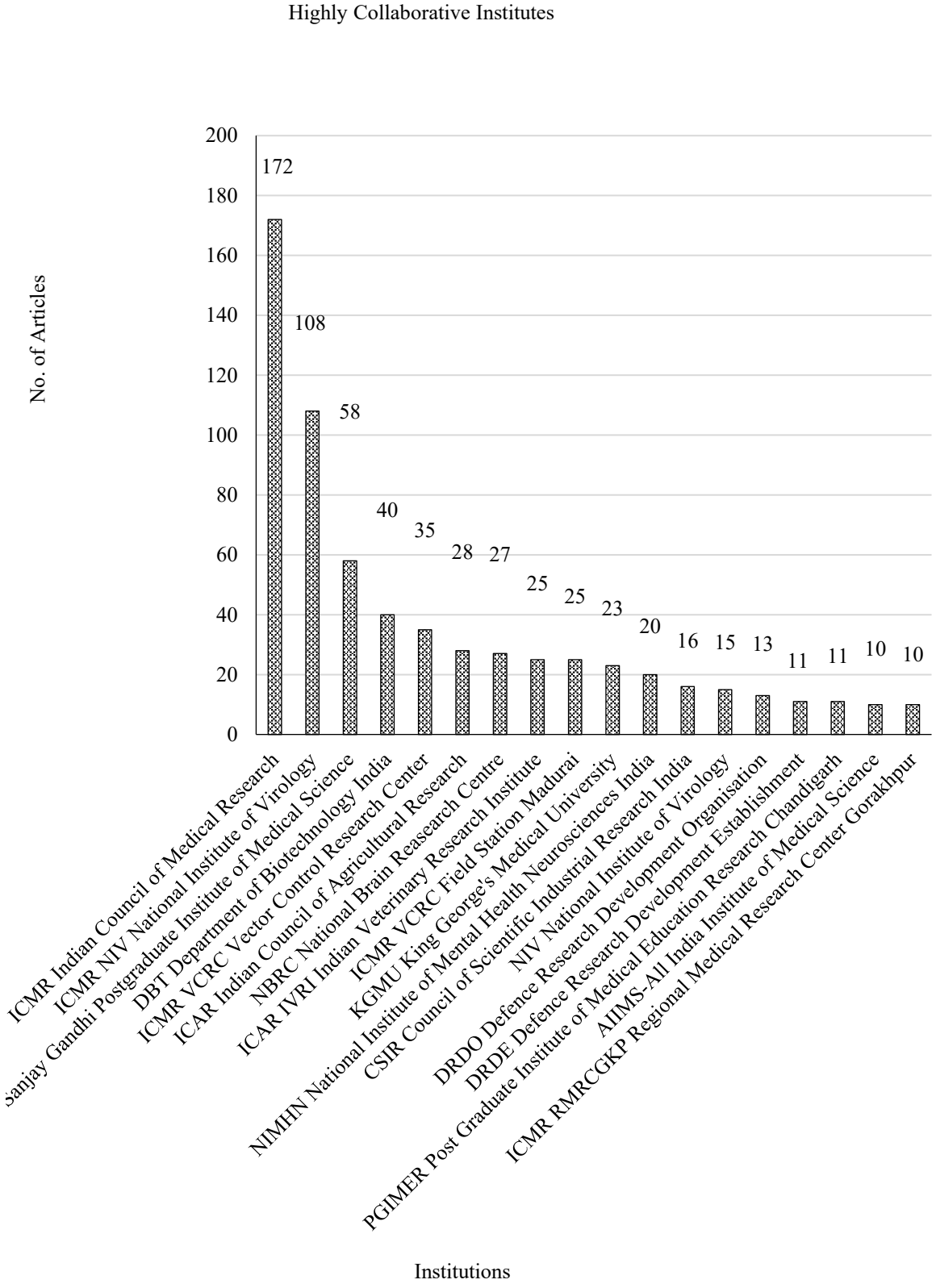

Figure 4. Highly collaborative institutions.

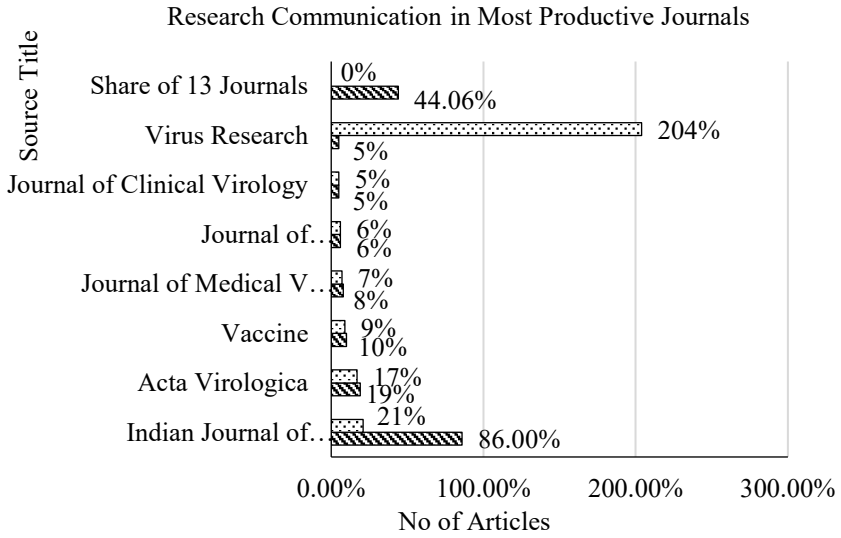

Figure 5. Research communication in most productive journals.

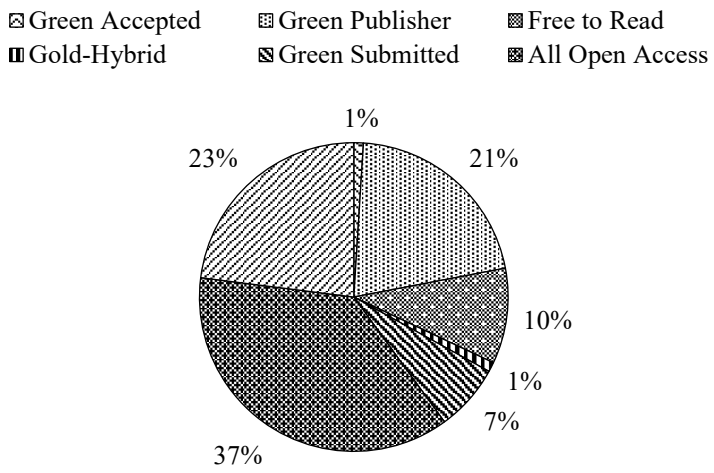

Figure 6. Types of journals.

The table shows the publishers contributing more than five articles on Japanese Encephalitis (JE) research. Wolters Kluwer Medknow Publications leads with 95 articles, underscoring its significant role in disseminating JE-related research, particularly in the Indian context. Elsevier follows closely with 87 articles, reflecting its global influence in scientific publishing. Springer Nature (51 articles) and Wiley (31 articles) contribute substantially, providing platforms for interdisciplinary studies on JE. Notably, Indian Council of Medical Research (ICMR) has directly published 32 articles, emphasizing its proactive role in knowledge dissemination. Other publishers like Oxford University Press and Taylor & Francis have contributed 16 articles each, showing their involvement in the field. The presence of Slovak Academic Press Ltd and Public Library Science highlights the international nature of JE research. Overall, the contributions from these publishers indicate a diverse and global engagement in advancing knowledge on JE (Figure 7 & Table 3).

The table showcases the leading funding agencies contributing to more than 5 articles on Japanese Encephalitis (JE). The Indian Council of Medical Research (ICMR) stands out as the top funding body, supporting 39 articles, reflecting its critical role in promoting JE research. Following ICMR, the Department of Biotechnology (DBT) has funded 22 articles, indicating its significant investment in biotechnological advancements related to JE. The Council of Scientific and Industrial Research (CSIR),

with 18 articles, and the Department of Science and Technology, with 11 articles, also highlight strong governmental backing for JE studies. The University Grants Commission (UGC) funded 8 articles, demonstrating academic support, while smaller agencies like the Uttar Pradesh Council of Science and Technology contributed to 5 articles, showing focused regional efforts. This restricted table emphasizes the concentrated funding sources supporting JE research.

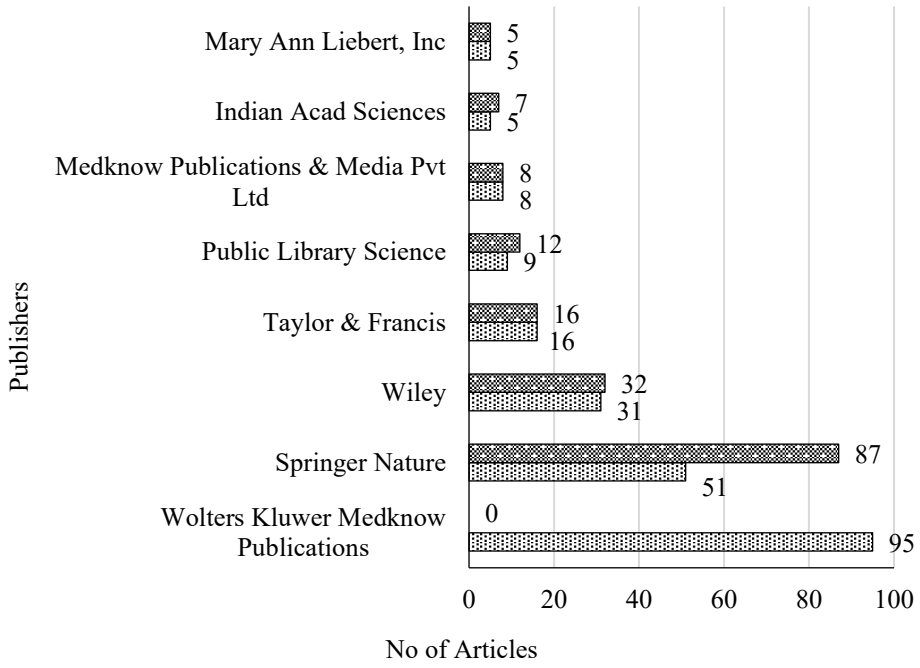

Figure 7. Publishers-wise distribution of articles.

Table 3. Funding agency-wise distribution of articles.

Funding agency	No of articles
Indian Council of Medical Research ICMR	39
Department of Biotechnology DBT India	22
Council of Scientific Industrial Research CSIR India	18
Department of Science Technology India	11
University Grants Commission India	8
Department of Biotechnology	6
Uttar Pradesh Council of Science Technology Lucknow UP India	5

The distribution of keywords associated with JE research indicates a comprehensive approach to understanding the virus, its epidemiology, clinical impact, and potential preventive measures. The fig highlights keywords related to Japanese Encephalitis (JE) research and their respective frequencies in publications. “Virus” leads with 58 mentions, followed by “Infection” (46 mentions), emphasizing the central role of the JE virus and its infection mechanisms in research. “Diagnosis” (32 mentions) and “Children” (30 mentions) indicate a significant focus on identifying the disease and its impact on pediatric populations. Geographic keywords like “India” (24 mentions) and “Uttar Pradesh” (13 mentions) highlight the regional relevance of the disease. Immunological studies are suggested by frequent mentions of “cells” (22 occurrences) and “monoclonal antibodies” (19 occurrences), while keywords related to outbreaks and epidemiology reflect a focus on understanding disease spread. Notably, including “vaccine” (15 occurrences) underscores ongoing efforts to develop preventive measures against JE. Overall, this keyword distribution illustrates a comprehensive approach to understanding research on Japanese Encephalitis (Figure 8 & Table 4).

Figure 8. Keywords occurrence in JE research.

Table 4. Highly cited articles.

Authors' full names	Article title	Source title	Affiliations	Citations
Sharma, Kiran Bala; Vrati, Sudhanshu; Kalia, Manjula	Pathobiology of Japanese encephalitis virus infection	Molecular Aspects of Medicine	Department of Biotechnology (DBT) India	287
Hegde, Nagendra R.; Gore, Milind M.	Japanese encephalitis vaccines: Immunogenicity, protective efficacy, effectiveness, and impact on the burden of disease	Human Vaccines & Immunotherapeutics	Indian Council of Medical Research (ICMR) India	214
Kumar, Sanjay; Verma, Akanksha; Yadav, Pardeep; Dubey, Sumit Kumar; Azhar, Esam Ibraheem; Maitra, S. S.; Dwivedi, Vivek Dhar	Molecular pathogenesis of Japanese encephalitis and possible therapeutic strategies	Archives of Virology	Jawaharlal Nehru University, New Delhi	208
Upadhyay, Ravi Kant	Biomarkers in Japanese Encephalitis: A Review	Biomed Research International	Deen Dayal Upadhyaya Gorakhpur University	185
Joe, Shaun; Salam, Abdul Ajees Abdul; Neogi, Ujjwal; Babu, Naren N.; Mudgal, Piya Paul	Antiviral drug research for Japanese encephalitis: an updated review	Pharmacological Reports	Manipal Academy of Higher Education (MAHE)	176
Srivastava, Kumar Saurabh; Jeswani, Vandana; Pal, Nabanita; Bohra, Babita; Vishwakarma, Vaishali; Bapat, Atharva Ashish; Patnaik, Yamini Prashanti; Khanna, Navin; Shukla, Rahul	Japanese Encephalitis Virus: An Update on the Potential Antivirals and Vaccines	Vaccines	Council of Scientific & Industrial Research (CSIR)–India; CSIR–Central Drug Research Institute (CDRI) Lucknow	167
Gore, Milind M.	Vaccines Against Dengue and West Viruses Nile in India: The Need of the Hour	Viral Immunology	ICMR–National Institute of Virology, Pune, India	152

Jha, Niraj Kumar; Kar, Rohan; Niranjan, Rituraj	ABC Transporters in Neurological Disorders: An Important Gateway for Botanical Compounds Mediated Neuro-Therapeutics	Current Topics in Medicinal Chemistry	Noida Institute of Engineering & Technology	146
Pinapati, Kishore Kumar; Tandon, Reetika; Tripathi, Pratima; Srivastava, Nidhi	Recent advances to overcome the burden of Japanese encephalitis: A zoonotic infection with problematic early detection	Reviews in Medical Virology	Natl Inst Pharmaceut Educ & Res Raebareli NIPER	140
Tiroumourougane, SV; Raghava, P; Srinivasan, S	Japanese viral encephalitis	Postgraduate Medical Journal	Jawaharlal Institute of Postgraduate Medical Education & Research	130
Kumar, Awanish; Sharma, Praveen; Shukla, Kamla Kant; Misra, Sanjeev; Nyati, Kishan Kumar	Japanese encephalitis virus: Associated immune response and recent progress in vaccine development	Microbial Pathogenesis	National Institute of Technology (NIT System); All India Institute of Medical Sciences (AIIMS) Jodhpur;	129
Desingu, Perumal Arumugam; Mishra, Sneha; Dindi, Lavanya; Srinivasan, Shalini; Rajmani, Raju S.; Ravi, Venkatraman; Tamta, Ankit Kumar; Raghu, Sukanya; Murugasamy, Krishnega; Pandit, Anwit Shriniwas; Sundaresan, Nagalingam R.	PARP1 inhibition protects mice against Japanese encephalitis virus infection	Cell Reports	Indian Institute of Science (IISC) – Bangalore	128
Misra, Usha K.; Kalita, Jayantee	Changing Spectrum of Acute Encephalitis Syndrome in India and a Syndromic Approach	Annals of Indian Academy of Neurology	Sanjay Gandhi Postgraduate Institute of Medical Sciences	126
Misra, Usha Kant; Kalita, Jayantee	Overview: Japanese encephalitis	Progress in Neurobiology	Sanjay Gandhi Postgraduate Institute of Medical Sciences	120
Prajapat, Surendra K.; Mishra, Laxmi; Khera, Sakshi; Owusu, Shadrack D.; Ahuja, Kriti; Sharma, Puja; Choudhary, Eira; Chhabra, Simran; Kumar, Niraj; Singh, Rajan; Kaushal, Prem S.; Mahajan, Dinesh; Banerjee, Arup; Motiani, Rajender K.; Vrati, Sudhanshu; Kalia, Manjula	Methotrimeprazine is a neuroprotective antiviral in JEV infection via adaptive ER stress and autophagy	EMBO Molecular Medicine	Department of Biotechnology (DBT) India	105
Gangwar, Roopesh Singh; Shil, Pratip; Sapkal, Gajanan N.; Khan, Siraj A.; Gore, Milind M.	Induction of virus-specific neutralizing immune response against West Nile and Japanese encephalitis viruses by chimeric peptides representing T-helper and B-cell epitopes	Virus Research	Indian Council of Medical Research (ICMR)	102

This table of highly cited articles on Japanese Encephalitis (JE) research highlights notable contributions from various Indian institutions. High citations to a scientific publication are interpreted as signs of scientific influence, impact, and visibility. An author's visibility can be measured by

determining how often their publications have been cited in other authors' publications. The top-cited article, "Pathobiology of Japanese Encephalitis Virus Infection" by Sharma and Vrati, stands out with 287 citations, reflecting its significant impact on understanding JE pathogenesis. Other highly cited works, such as Hegde and Gore's analysis of JE vaccines with 214 citations, emphasize immunogenicity and the effectiveness of vaccination efforts. Jawaharlal Nehru University's molecular pathogenesis study, with 208 citations, contributes to therapeutic strategy development. The research covers a wide range of topics, including biomarkers, antiviral research, and immune responses, with institutions like the Indian Council of Medical Research (ICMR), Jawaharlal Nehru University (JNU), and Deen Dayal Upadhyaya University playing pivotal roles. The consistent citation impact of these studies demonstrates the country's robust research output and international relevance in addressing JE as a public health concern.

FINDINGS

The data analysis provides a detailed examination of the research landscape on Japanese Encephalitis (JE) in India, with insights into document types, research trends, authorship patterns, institutional contributions, funding, and citation impact. Key findings include:

The literature on JE in India predominantly comprises original research articles, strongly emphasizing empirical studies and foundational knowledge. JE research output has steadily increased since 1975, with a marked rise from 2018 to 2023, peaking in 2022. This surge likely corresponds with advancements in scientific research and growing public health awareness of JE. Post-2010, India has seen significant growth in JE publications and citations, with a notable citation peak in 2022. JE research spans a range of disciplines, with notable contributions in medicine, immunology, and neurology. This multidisciplinary approach includes clinical, experimental, and epidemiological studies, essential for a holistic understanding of JE. Leading institutions, particularly the Indian Council of Medical Research (ICMR) and National Institute of Virology (NIV), play critical roles. The diversity of institutional contributions highlights a collaborative, interdisciplinary framework within India's JE research efforts. The Indian Journal of Medical Research and other high-impact international journals amplify the reach of Indian JE studies. Major governmental funding from ICMR and DBT underscores JE's prioritization as a public health issue, supporting extensive research efforts nationwide.

CONCLUSION AND SUGGESTIONS

The study of JE research in India reveals a well-established and growing research ecosystem with strong institutional support and high international collaboration. The increased research output, particularly in recent years, and the high citation impact of Indian studies underscore the country's vital role in advancing global understanding of JE. The prominent role of ICMR, along with significant contributions from prolific authors, highlights a dedicated effort toward tackling this mosquito-borne disease. The interdisciplinary focus, spanning immunology and Research Experimental Medicine, emphasizes a comprehensive approach to understanding and combating JE in India. To advance Japanese Encephalitis (JE) research, increasing funding and institutional support by involving a diverse range of government and private agencies is crucial, especially to foster innovation in underexplored areas like pediatric impact and vector control. Expanding open-access initiatives will enhance global accessibility, facilitate knowledge sharing, and support policymakers in implementing effective public health strategies. Strengthening collaborative networks at both national and international levels can promote data-sharing and insights that will aid in vaccine development, therapeutic advancements, and other JE-related interventions. Additionally, fostering early-career researcher participation through targeted grants, mentorship, and involvement in high-impact studies will bring fresh perspectives and ensure sustained progress in JE research.

Ethical Statement

This study did not involve human or animal subjects; therefore, institutional review board approval and informed consent were not required.

Conflicts of Interest

None.

Acknowledgments

The authors are grateful to and ICSSR, Government of India for providing Doctoral Fellowship and the Department of Library and Information Science, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh India for help in this work.

REFERENCES

1. Ammed K, Gupta R, Tiwari R. Dengue research in India: A scientometric analysis of publications, 2003–2012. Int J Med Public Health. 2014;4(1):1. doi: 10.4103/2230-8598.127114.
2. Bala A, Gupta B. Mapping of Indian neuroscience research: A scientometric analysis of research output during 1999–2008. Neurol India. 2010;58(1):35. doi: 10.4103/0028-3886.60393.
3. Bansal M, Bansal J, Gupta BM. Scientometric analysis of Indian chikungunya research output during 2006–2015. Int J Libr Inf Netw Knowl. 2018;3(1):54–67.
4. Cheng Y, Minh NT, Minh QT, Khandelwal S, Clapham HE. Estimates of Japanese encephalitis mortality and morbidity: A systematic review and modeling analysis. PLoS Negl Trop Dis. 2022;16(5):e0010361. doi: 10.1371/journal.pntd.0010361.
5. Garg K, Dwivedi S. Pattern of collaboration in the discipline of Japanese encephalitis. DESIDOC J Libr Inf Technol. 2014;34(3):241–247. doi: 10.14429/djlit.34.7342.
6. Garg K, Dwivedi S, Kumar S. Scientometric profile of vector-borne diseases: A case study of global Japanese encephalitis research. SRELS J Inf Manag. 2014;50(5):543–554.
7. Ghosh D, Basu A. Japanese encephalitis—A pathological and clinical perspective. PLoS Negl Trop Dis. 2009;3(9):e437. doi: 10.1371/journal.pntd.0000437.
8. Gupta BM, Kaur H, Kshitij A. Dementia research in India: A scientometric analysis of research output during 2002–2011. Ann Libr Inf Stud. 2012;59(4):280–288.
9. Wang H, Liu G. Epidemiology of Japanese encephalitis: Past, present, and future prospects. Asian Pac J Trop Med. 2015;8(9):687–691.
10. Kharat PP, Eraj S. Scientometric profile on chikungunya in MEDLINE database. Int J Res Libr Sci. 2021;7(3):20. doi: 10.26761/ijrls.7.3.2021.1419.
11. Krishnan P, Praharaj CS, Kantharajan G, Bhoomaiah D, Sekar I, Soam SK, et al. A scientometric analysis of research on pulses in India during 2000–2017. Agric Res. 2021;11(3):565–578. doi: 10.1007/s40003-021-00595-3.
12. Li X, Li J, Wu G, Wang M, Jing Z. Detection of Japanese encephalitis by metagenomic next-generation sequencing of cerebrospinal fluid: A case report and literature review. Front Cell Neurosci. 2022;16:856512. doi: 10.3389/fncel.2022.856512.
13. Moore SM. The current burden of Japanese encephalitis and the estimated impacts of vaccination: Combining estimates of spatial distribution and transmission intensity of a zoonotic pathogen. PLoS Negl Trop Dis. 2021;15(10):e0009385. doi: 10.1371/journal.pntd.0009385.
14. Ritu G, Gupta B. Japanese encephalitis: A scientometric analysis of publications, 2003–2012. Inform Stud. 2016;3(1):49–61.
15. Xu C, Zhang W, Pan Y, Wang G, Yin Q, Fu S, et al. A bibliometric analysis of global research on Japanese encephalitis from 1934 to 2020. Front Cell Infect Microbiol. 2022;12:833701. doi: 10.3389/fcimb.2022.833701.
16. Yumnam G, Singh CI. A scientometric visualization of 32 years of leukemia research in India. Sci Technol Libr. 2023;43(1):98–116. doi: 10.1080/0194262X.2023.2181279.

