ORIGINAL ARTICLE

Structured health education interventions for lifestyle modification in hypertension management: a bibliometric analysis

Venkatesh Pobbathi, Rashmi Kundapur, Kishore Yadav Jothula
Department of Community Medicine& Family Medicine, All India Institute of Medical Sciences Bibinagar

CORRESPONDING AUTHOR
Dr. Kishore Yadav Jothula, Associate professor, Department of Community Medicine & Family Medicine, All India Institute of Medical Sciences Bibinagar
Email: kishoreyadav2021@gmail.com

CITATION
Pobbathi V, Kundapur R, Jothula KY. Structured health education interventions for lifestyle modification in hypertension management: a bibliometric analysis. Indian J Comm Health. 2026;38(2):431-438.
https://doi.org/10.47203/IJCH.2026.v38i02.038
ARTICLE CYCLE
Received: 05/03/2026; Accepted: 24/03/2026; Published: 31/03/2026

ABSTRACT

Background: Hypertension persists as a major global health concern. Structured health education interventions emphasizing lifestyle modification are crucial for control and prevention. Increased research output across countries elucidates strategy development and key contributors in this area. **Aims/Objectives:** This bibliometric study aims to analyze global publication trends, identify influential contributors, and track thematic shifts in structured health education interventions for lifestyle modification in hypertension management. **Methods & Materials:** A bibliometric analysis of literature indexed in the **PubMed database** was conducted. The search was performed on **6 January 2026,** Articles published between 1st January 2000 to dec 31st 2025, 336 articles were retrieved and after screening, 168 articles were considered for the bibliometric analysis, which was conducted using Biblioshiny and VOSviewer. Trends in article volume, leading authors, affiliations, and journals were analyzed and thematic clusters were examined by keyword co-occurrence networks. **Results & Conclusion:** Research output increased substantially after 2013.Country-level analysis based on author affiliations indicated that the United States and China were the leading contributors to the literature, followed by Australia, Spain and Brazil. Highly cited authors included Trudeau L (564 citations), Khan NA (532 citations), Hill MD (532 citations), and Campbell NR (532 citations). Among journals, PLOS ONE published the highest number of articles (12 publications, 725 citations), followed by Nutrients (10 publications, 420 citations) and BMC Public Health (6 publications, 427 citations). Collaboration networks demonstrated active international partnerships, and thematic mapping revealed dominant research areas including lifestyle modification, patient education, self-management, physical activity, and digital health interventions. The analysis was limited to publications indexed in PubMed and to English-language articles.

KEYWORDS

Hypertension; Health Education; Lifestyle; Life Style Modification; Patient Education; Bibliometrics

INTRODUCTION

Hypertension mains one of the most significant global public health challenges, contributing to over 10 million deaths annually worldwide (1). Despite effective pharmacological therapies, achieving blood pressure control largely depends on patient understanding, adherence, and sustainable lifestyle modification. Structured health education—emphasizing dietary changes, physical activity, and behavioral self-regulation—has emerged as an essential component of non-pharmacological hypertension management (2).

In the past two decades, research on structured educational interventions for hypertension has grown substantially, fueled by community-based and technology-driven strategies such as mobile health (mHealth) and digital self-management platforms (3). Bibliometric analysis allows for a systematic examination of this research evolution, mapping key contributors, thematic domains, and global collaboration patterns over time (4).

While several clinical trials demonstrate the efficacy of health education in improving blood pressure control, there is limited comprehensive synthesis identifying how global research has evolved in structured educational interventions. Traditional narrative reviews focus on efficacy, but bibliometric studies provide meta-level insight into productivity, influence, and conceptual linkages within the field (4,5). A bibliometric analysis is required Quantifying the Digital Pivot Since 2013, there has been a marked rise in research output. However, it is unclear if this growth represents a cohesive integration of technology (e.g., eHealth, telemedicine) into clinical practice or if these themes are developing in isolation. And Mapping Intellectual Networks like Traditional reviews do not identify the "core" group of influential authors or the strength of international collaboration. Understanding these networks is essential for identifying

who is driving global policy and which institutions are leading the transition toward integrated care

Aim & Objective(s): To analyze global research trends , contributing authors , and thematic evolution in structured health education interventions for lifestyle modification in hypertension management through a comprehensive bibliometric analysis.

Objectives:

- To analyze the publication trends in structured health education interventions aimed at lifestyle modification for hypertension management.
- To identify the most prolific authors, institutions, journals, and countries and to analyse citation impact, and collaboration patterns of authors in research on structured health education interventions for hypertension management.
- To map and visualise the key thematic areas and emerging research hotspots on structured health education interventions in hypertension management

MATERIAL & METHODS

Study Type and Study Design: A descriptive bibliometric study was conducted, based on the bibliometric methodological framework described by Donthu et al. (2021) for conducting science mapping and performance analysis

Databases used

The study was conducted using secondary data obtained from the PubMed database, which indexes peer-reviewed biomedical and public health literature globally.

Study Population: The study population consisted of published scientific articles related to structured health education interventions, lifestyle modification, and hypertension management indexed in PubMed during the defined study period.

Search period: The study included publications indexed between 1 January 2000 and 31 December 2025

Sample Size Calculation

As this was a bibliometric analysis of published literature, no statistical sample size calculation was required. All articles retrieved using the predefined search strategy were considered for screening

Inclusion Criteria

Studies were included if they:

Addressed hypertension or related chronic diseases.

Focused on structured health education or educational interventions.

Examined lifestyle modification components such as diet, physical activity, or behavioral change.

Were original research articles published in English.

Were indexed in PubMed within the study period.

Exclusion Criteria

The following were excluded:

Study protocols,Editorials and commentaries, Conference abstracts

Non-English publications

Articles not related to structured health education or lifestyle modification in hypertension management

Strategy for Data Collection: The PubMed database was searched using MeSH terms and free-text keywords combined with Boolean operators. The search strategy consisted of four conceptual blocks: population, intervention, lifestyle outcomes, and blood pressure outcomes.

S. No.	Search Block / Concept	Search String	Articles Retrieved (n)
1	Population	"Hypertension"[MeSH] OR hypertension[tiab] OR "high blood pressure"[tiab] OR "coronary artery disease"[tiab] OR CAD[tiab] OR "congestive heart failure"[tiab] OR CHF[tiab] OR stroke[tiab] OR "chronic disease"[tiab] OR "noncommunicable disease"[tiab] OR "non communicable disease"[tiab]	903,649
2	Intervention	"health education"[MeSH] OR "health education"[tiab] OR "educational module"[tiab] OR "module-based"[tiab] OR "module based"[tiab] OR "structured education"[tiab] OR "patient education"[tiab]	234,568
3	Outcome – Lifestyle	"lifestyle modification"[tiab] OR "behavior change"[tiab] OR "behaviour change"[tiab] OR "behavioral intervention"[tiab] OR "physical activity"[MeSH] OR "physical activity"[tiab] OR exercise[MeSH] OR exercise[tiab] OR "diet modification"[tiab] OR nutrition[MeSH] OR nutrition[tiab] OR "healthy diet"[tiab] OR "dietary intervention"[tiab]	760,059
4	Outcome – Blood Pressure	"blood pressure"[MeSH] OR "blood pressure reduction"[tiab] OR "blood pressure control"[tiab]	162,281
5	Final Combined Search	(#1 AND #2 AND #3 AND #4)	336

The final search query used was:

("Hypertension"[MeSH] OR hypertension[tiab] OR "high blood pressure"[tiab] OR "coronary artery disease"[tiab] OR CAD[tiab] OR "congestive heart failure"[tiab] OR CHF[tiab] OR stroke[tiab] OR "chronic disease"[tiab] OR "noncommunicable disease"[tiab] OR "non communicable disease"[tiab]) AND ("health education"[MeSH] OR "health education"[tiab] OR "educational module"[tiab] OR "module-based"[tiab] OR "module based"[tiab] OR "structured education"[tiab] OR "patient education"[tiab]) AND ("lifestyle modification"[tiab] OR "behavior change"[tiab] OR "behaviour change"[tiab] OR "behavioral intervention"[tiab] OR "physical activity"[MeSH] OR "physical activity"[tiab] OR exercise[MeSH] OR exercise[tiab] OR "diet modification"[tiab] OR nutrition[MeSH] OR nutrition[tiab] OR "healthy diet"[tiab] OR "dietary intervention"[tiab]) AND ("blood pressure"[MeSH] OR "blood pressure reduction"[tiab] OR "blood pressure control"[tiab])

A total of 336 articles were retrieved.

Bibliographic records were retrieved from the PubMed database and exported in BibTeX format using Zotero. The exported dataset was imported into Rayyan, where duplicate records were identified and removed. A total of 336 records were initially identified, and after removing 20 duplicate records, 316 articles remained for title and abstract screening. Screening was conducted independently by two reviewers (VP and RK) based on predefined inclusion criteria, and disagreements were resolved through discussion and consensus. Following title and abstract screening, 118 records were excluded, and 198 articles were assessed for full-text eligibility. After excluding 30 articles that did not meet the inclusion criteria, 168 studies were included in the final bibliometric dataset. The cleaned BibTeX dataset was then imported into Biblioshiny within the R SOoftwere for bibliometric analysis. Descriptive bibliometric indicators, citation analysis, collaboration networks, and thematic mapping were generated, and network visualizations were produced using VOSviewer. Since PubMed does not provide citation counts, citation data for the 168 included articles were manually retrieved from Google Scholar, and the citation counts were recorded in Microsoft Excel for analysis

Working Definition

Structured health education intervention: A planned and organized educational program aimed at improving patient knowledge, skills, and behaviors related to hypertension management.

Lifestyle modification: Behavioral changes including dietary modification, increased physical activity, weight management, and self-management practices aimed at controlling blood pressure.

Bibliometric analysis: A quantitative method used to evaluate scientific literature through publication trends, citation analysis, and network mapping.

Ethical Issues and Informed Consent

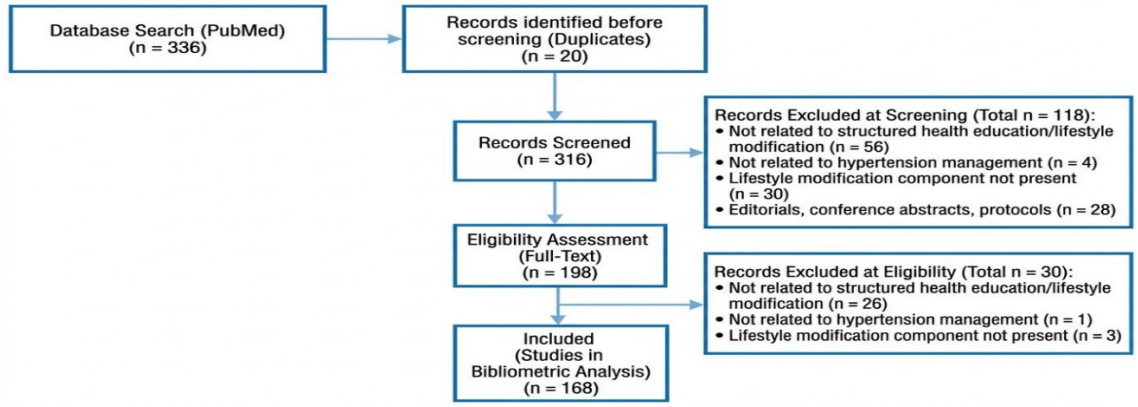
The study utilized publicly available secondary data from published literature and did not involve human participants. Therefore, ethical approval and informed consent were not required.

Data Analysis – Software

The bibliometric analysis was conducted using the following tools:

Software	Analytical Function	Key Outputs
Biblioshiny (R 4.3.1)	Descriptive bibliometric analysis, thematic evolution	Productivity graphs, thematic maps
VOSviewer v1.6.20	Network visualisation of co-authorship, co-citation, and keyword relationships	Cluster maps, density visualisations
Microsoft Excel 365	Data preprocessing, tabulation, trend analysis	Tables and publication trend graphs

Figure 1. Study selection flow diagram Summary Showing the Identification, Screening, and Inclusion of Studies for Bibliometric Analysis (2000/1/1 to 2025/12/31)



RESULTS

Study Selection: A total of 336 records were identified from the PubMed database. After removing 20 duplicate records, 316 articles remained for title and abstract screening. Screening was conducted using the Rayyan platform by two independent reviewers (VP and RK) based on predefined inclusion criteria. Any disagreements during the screening process were resolved through discussion and consensus. Following title and abstract screening, 118 records were excluded, and 198 articles were assessed for full-text eligibility. After excluding 30 articles that did not meet the inclusion criteria, 168 studies were included in the final bibliometric analysis. Since PubMed does not provide citation counts, citation data for the 168 included articles were manually retrieved from Google Scholar. Each article was searched individually, and citation counts were recorded in Microsoft Excel for analysis. The study selection process is summarized in Figure 1 (Study selection flow diagram).

Publication Trends

The bibliometric dataset comprised 168 publications, with an annual growth rate of approximately 8.5%. The mean age of the publications was 7.9 years, and the average citation per document was eight citations, indicating an increasingly referenced research domain.

Research output remained relatively low during the early 2000s but began to increase steadily after 2013, with a marked rise after 2018. In recent years, annual publication output has stabilized at approximately 15–20

articles per year, suggesting sustained research activity in lifestyle-based hypertension management. The temporal pattern of scientific production is presented in Figure 2.

Keyword trend analysis demonstrated increasing prominence of terms such as "lifestyle," "blood pressure," "patient education," and "treatment outcome," reflecting growing scientific interest in behavioral and educational approaches to hypertension control.

Geographic and Institutional Contributions

Country-level analysis indicated that the United States and China contributed the largest share of publications during the study period. Additional growth in research output was observed from Australia, Spain, and Brazil, suggesting increasing global engagement in lifestyle-focused hypertension research.

Institutional productivity analysis identified the University of California, Beijing University of Chinese Medicine, and Hospital Clínico Universitario San Carlos as major contributors to the literature. These geographic and institutional publication patterns are illustrated in Figures 3 and 4.

Citation Impact of Leading Authors and Journals

Citation analysis identified a small group of highly influential authors contributing significantly to research on structured health education interventions for hypertension management. Trudeau L recorded the highest citation impact with 564 citations across four publications, followed by Khan NA, Hill MD, and Campbell NR, each receiving over 530 citations. Additional influential contributors included Lin PH, Stevens VJ, Padwal R, Larochelle P, Mahon JL, and Rabkin SW, whose publications also demonstrated substantial citation impact. Detailed author citation metrics are presented in Table 3.

Journal-level citation analysis revealed that PLOS ONE had the greatest citation impact, accumulating 725 citations across twelve publications. Other highly cited journals included the Canadian Journal of Cardiology, Circulation: Cardiovascular Quality and Outcomes, and Patient Education and Counseling, reflecting the integration of cardiovascular medicine, public health, and behavioral science in this research domain. Interdisciplinary journals such as BMC Public Health, Nutrients, and the International Journal of Environmental Research and Public Health also contributed substantially to the dissemination of research on lifestyle-based hypertension management. The distribution of journal publications and citation impact is summarized in Table 2

Collaboration Networks

Authorship collaboration analysis revealed an average of 8.3 authors per publication, indicating a strong multidisciplinary and collaborative research environment. Approximately 15.5% of publications involved international collaboration, highlighting the global nature of research efforts in hypertension management and lifestyle interventions.

Co-authorship network visualization identified several major collaboration clusters connecting research institutions across North America, Europe, and Asia, reflecting active international research partnerships. These collaboration structures are illustrated in Figures 5–10.

Thematic Structure and Research Hotspots

Analysis of author keywords and MeSH terms revealed several dominant research themes within the field. Frequently occurring concepts included blood pressure control, lifestyle modification, patient education, and treatment outcomes, highlighting the central role of behavioral interventions in hypertension management.

Thematic mapping and keyword co-occurrence analysis identified several interconnected research clusters focusing on lifestyle interventions and physical activity, patient education and self-management, and clinical outcomes related to hypertension control. Emerging research topics included dietary sodium restriction, behavioral therapy, weight management, and technology-assisted health interventions.

Temporal analysis demonstrated a gradual shift from traditional patient education approaches toward integrated lifestyle interventions, digital health strategies, and community-based hypertension management programs. The conceptual structure and thematic evolution of the research field are illustrated in Figures 11–16

Analysis of author-provided keywords and thematic clusters reveals persistent focus on major concepts: "humans" (164 occurrences), "female" (103), "male" (96), "middle aged," and "adult"—demonstrating a strong emphasis on generalizable, population-level research.

Among methodological and intervention terms, "blood pressure," "life style," "patient education as topic," and "treatment outcome" are most prominent. Emerging trend topics by temporal clustering include "diet, sodium-restricted," "behavior therapy," "combined modality therapy," "practice guidelines as topic," "randomized controlled trials," and "weight loss," with median research attention dates ranging from 2010 to 2021, indicating thematic evolution toward complex, longitudinal, and integrative interventions.

Thematic mapping quantitatively supports the pre-eminence of "health education," "treatment outcome," "body mass index," and "hypertension prevention and control" based on centrality and density metrics. High-density, high-centrality "motor" themes include "treatment outcome" and "body mass index," highlighting their pivotal roles in this literature, while clusters such as "exercise therapy/methods" and "cardiovascular diseases/etiology/prevention & control" are developing niche themes.

Co-occurrence networks further show that "self care/methods," "telephone," and "social support" cluster together as critical aspects of innovative, technology-enabled interventions.

Table 1: Top 10 Authors by citation impact

Author	No. of Papers	Total Citations
TRUDEAU L	4	564
KHAN NA	4	532
HILL MD	4	532
CAMPBELL NR	4	532
LIN PH	3	492
STEVENS VJ	2	471
PADWAL R	3	463
LAROCHELLE P	3	463
MAHON JL	3	463

RABKIN SW	3	463

Table 2 : Top Journals by citation impact

Journal	Papers	Citations
PLOS ONE	12	725
Canadian Journal of Cardiology	5	547
Circulation: Cardiovascular Quality and Outcomes	3	455
Patient Education and Counseling	4	454
BMC Public Health	6	427
Nutrients	10	420
Journal of Cardiovascular Nursing	1	383
Int. Journal of Behavioral Nutrition and Physical Activity	2	339
Int. Journal of Environmental Research and Public Health	7	323
Archives of Internal Medicine	1	318

Figure 1. PRISMA Flow Summary Showing the Identification, Screening, and Inclusion of Studies for Bibliometric Analysis (2000/1/1 to 2025/12/31)

Figure 2: Annual Scientific Production of Articles on Structured Health Education Interventions for Hypertension

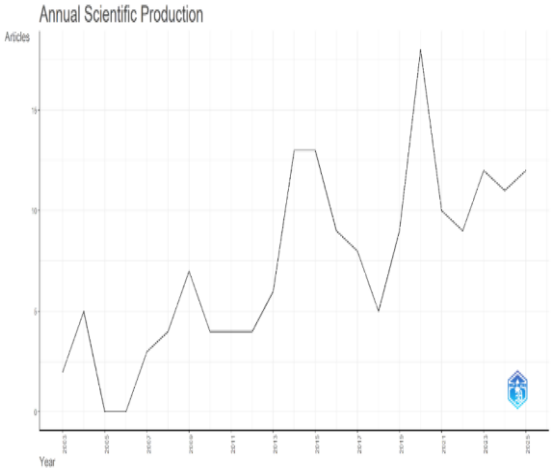


Figure 3: Country-wise Scientific Publications Over Time Reflecting Leading National Contributions

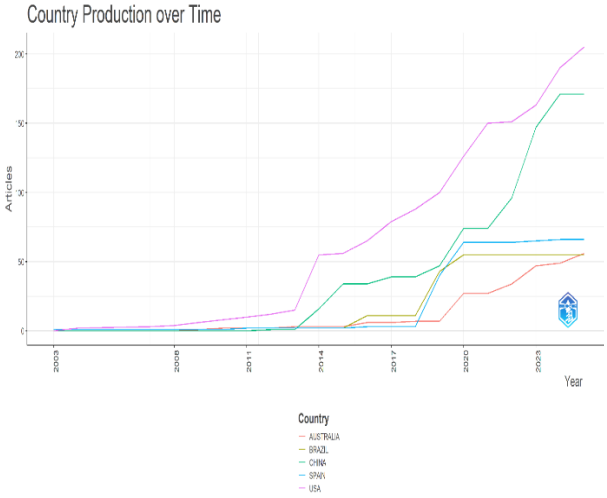


Figure 4: "Publication Output Over Time Among Leading Academic and Medical Institutions

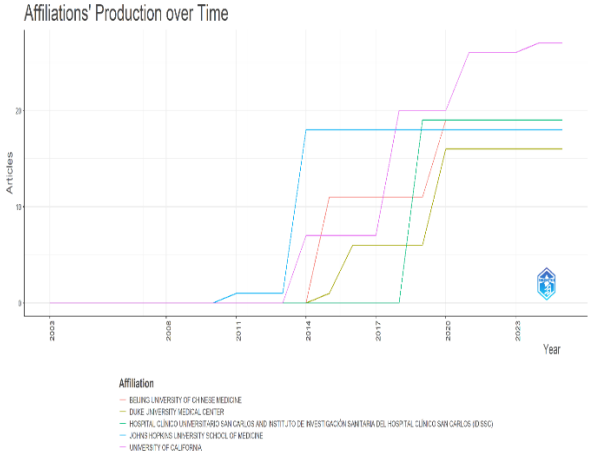


Figure 5: Top Prolific Authors Contributing to Structured Health Education Interventions in Hypertension

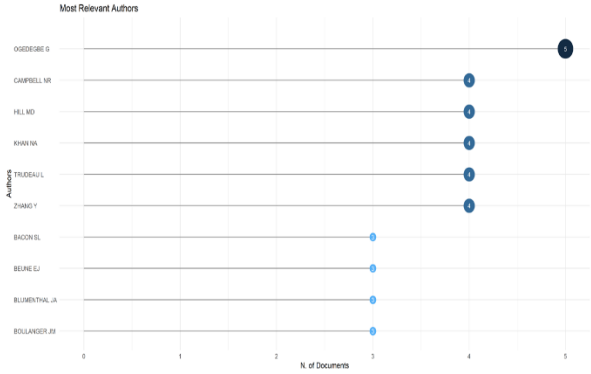


Figure 6 : Year-wise Research Production by Leading Authors in the Field

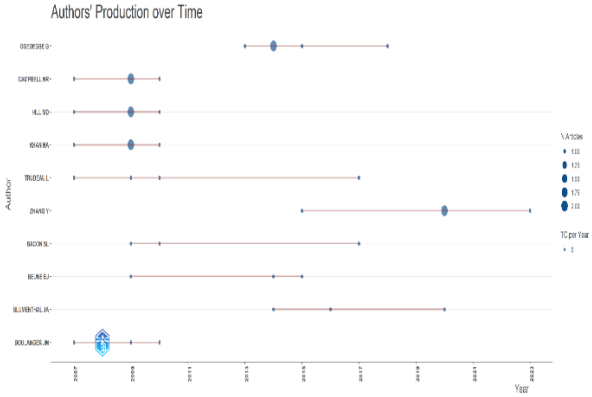


Figure 7: Most Influential Research Institutions in Structured Health Education and Hypertension Management

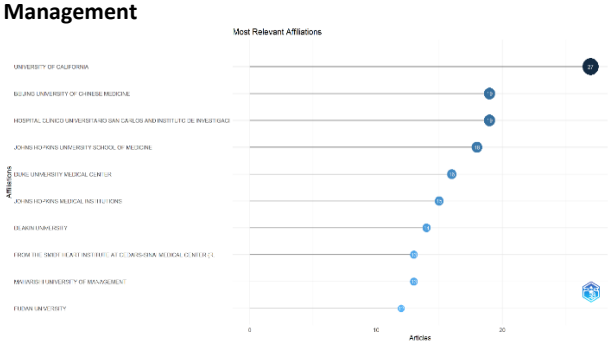


Figure 8: Country Scientific Production Highlighting Global Leadership and Collaboration

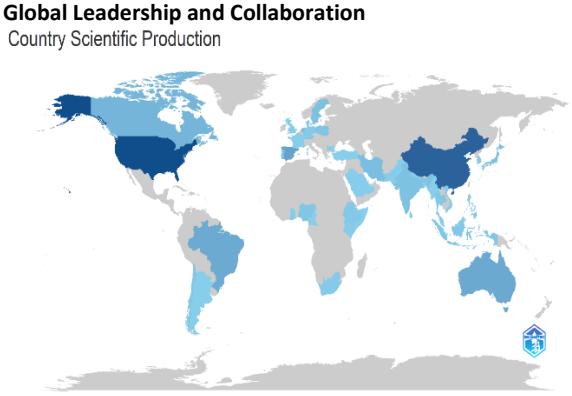


Figure 9: Countries with Highest Corresponding Author Contributions in Structured Health Education Research

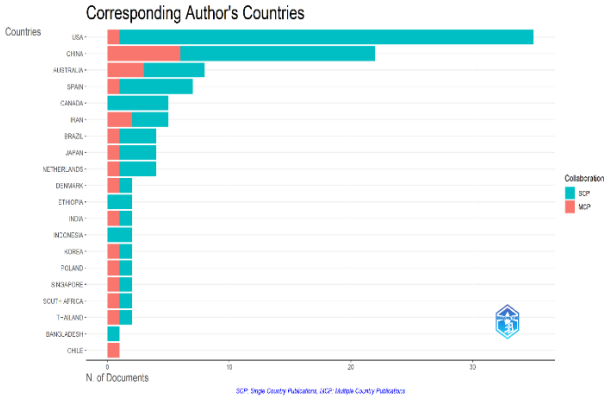


Figure 10: Co-authorship Network Depicting Collaboration Patterns Among Authors

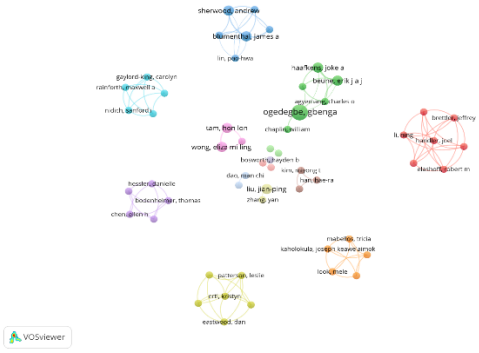


Figure 11: Thematic Map of Research Clusters and Knowledge Structure in Health Education and Hypertension

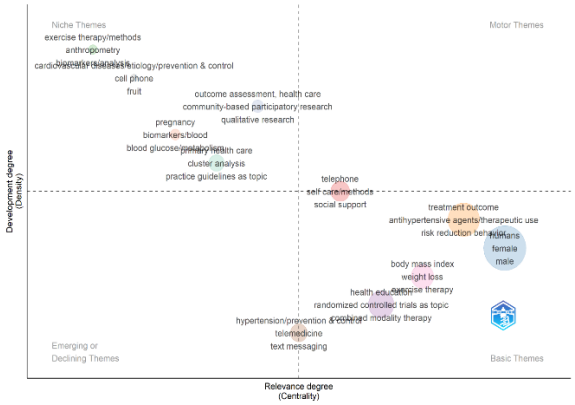


Figure 12: Most Frequently Occurring Keywords Representing Key Focus Areas in the Research Field

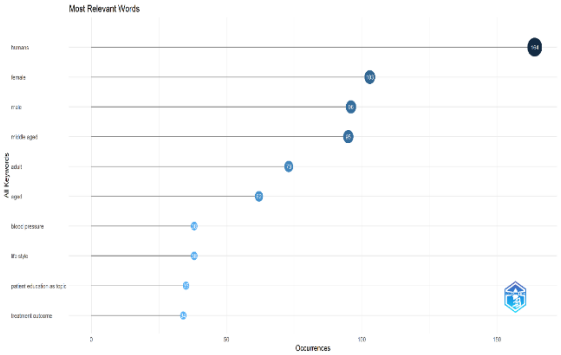


Figure 13: Keyword Co-occurrence Networks Illustrating Conceptual Overlaps and Interrelations

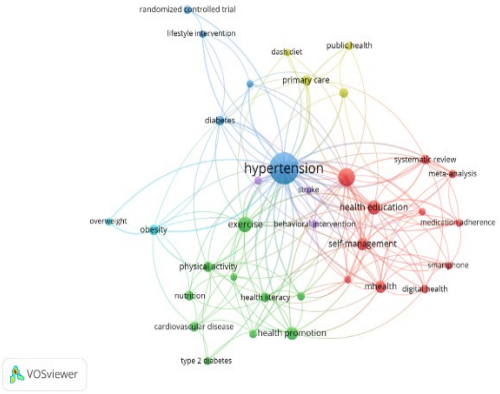


Figure 14: MeSH Term Network Depicting Controlled Vocabulary Themes Associated with the Research

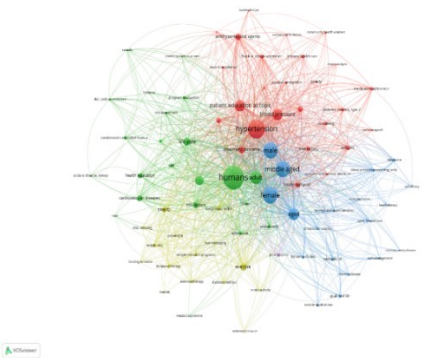


Figure 15: Temporal Trends of Emerging and Established Research Topics in Structured Health Education

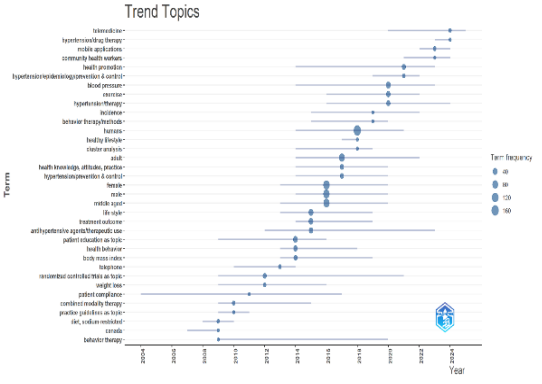
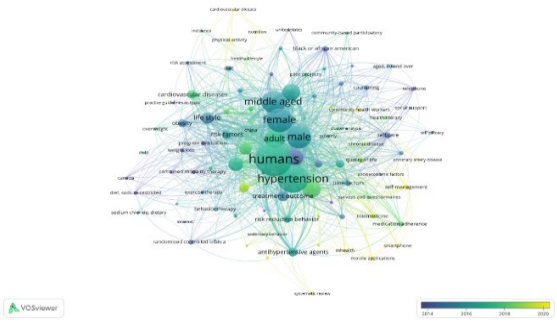


Figure 16: Comprehensive Keyword Network Visualizing Interdisciplinary and Multi-Concept Relationships



DISCUSSION

The present bibliometric study analyzed global research trends related to structured health education interventions promoting lifestyle modification in hypertension management between 2001 and 2025. The findings revealed a steady increase in scientific output, particularly after 2013, reflecting growing research interest in lifestyle-based approaches to hypertension control. This trend is consistent with the increasing global focus on non-communicable disease prevention and behavioral risk factor modification.

Similar patterns have been reported in previous bibliometric studies. Lou et al. (2023)(6) conducted a bibliometric analysis on exercise-based interventions for hypertension and observed a significant increase in publications after 2015, identifying exercise therapy and lifestyle modification as emerging research hotspots. The increasing publication trend observed in the current study aligns with their findings, suggesting that lifestyle-based strategies have become a major focus in hypertension research globally.

Our analysis also identified dominant research themes related to patient education, lifestyle modification, and treatment outcomes, which is consistent with the findings reported by Tam et al. (2020)(7). In their systematic review and meta-analysis, Tam and colleagues demonstrated that structured educational interventions significantly improved blood pressure control and patient adherence to lifestyle recommendations. These findings support the growing emphasis on educational strategies observed in the present bibliometric analysis(7).

Community-based health education programs have also been highlighted as effective strategies for hypertension management. Le et al. (2023) reported that community-based educational interventions significantly improved lifestyle behaviors and blood pressure control among hypertensive patients. The prominence of keywords related to lifestyle modification and patient education in our study reflects the increasing recognition of such interventions in clinical and public health practice(8).

The thematic evolution observed in the present study also indicates a shift toward technology-assisted interventions. This trend is consistent with the work of Zhang et al. (2025), who reported increasing research interest in digital health and telemedicine for hypertension management. Their bibliometric analysis highlighted remote monitoring, mobile health applications, and digital self-management tools as emerging research areas. The growing appearance of keywords related to eHealth and behavioral interventions in our dataset supports this evolving research direction(9).

In addition, the geographic distribution of publications in the present study showed that the United States and China contributed the largest share of research output. This pattern highlights an important geographic imbalance in research production, as the majority of scientific output originates from high-income countries despite a substantial proportion of the global hypertension burden occurring in low- and middle-income countries. Similar findings were reported by Yasli et al. (2024) in their bibliometric study of hypertension research in primary care, which identified these countries as leading contributors to global hypertension research. This dominance may reflect stronger research infrastructure, greater funding availability, and established cardiovascular research programs in these countries(10).This disparity suggests the need to strengthen research capacity and promote collaborative studies focusing on lifestyle-based hypertension interventions in low- and middle-income countries, where the burden of uncontrolled hypertension is rapidly increasing

From a policy perspective, the increasing emphasis on lifestyle modification and patient education highlights the importance of integrating structured health education interventions into primary healthcare and national non-communicable disease control programs. Overall, the findings of the present study confirm that research on structured health education interventions for hypertension management has expanded substantially over the past two decades. The increasing focus on lifestyle modification, patient education, and digital health strategies highlights the evolving approach to hypertension control, emphasizing behavioral and preventive strategies alongside pharmacological treatment.

CONCLUSION

This is a bibliometric study that aims to offer an extensive overview of the international research trends in relation to structured health education interventions for lifestyle modification in hypertension management. The findings of this study show that there is a steady increase in scientific publications, with a focus on behavioral interventions, lifestyle modification, and digital technologies.

This study confirms its objectives by presenting trends in scientific publications, prominent authors, leading journals, collaboration, and new thematic areas in this specific area of study. The rise of education-based interventions in hypertension management is in line with recent studies that show the effectiveness of these interventions in hypertension management.

This study is significant in contributing to existing knowledge in this area by presenting the intellectual structure, research hotspots, and international collaboration in hypertension education research. This is useful in helping to improve future research, collaboration, and public health interventions in hypertension prevention and management

RECOMMENDATION

Public health programs must incorporate structured health education and lifestyle counseling as part of the management of hypertension.

More emphasis must be given to community-based educational interventions, especially in low- and middle-income countries.

Future research must be conducted on digital health technologies, mobile health applications, and telemedicine in the management of hypertension.

Strengthening international research collaborations must be pursued in the hope of widening the scope of knowledge and implementation of hypertension prevention strategies.

LIMITATION OF THE STUDY

1. The study was conducted based on the articles published in the journals that are listed in the PubMed database. The study might not include the articles published in other databases such as Scopus or Web of Science.
2. The study was conducted using articles published in the English language only. The study might have language bias.
3. The citation study might differ from database to database, and the study using Google Scholar for citation might have some minor variations.
4. The bibliometric study only considers the trends of publications and the citations received by the publications, but the effectiveness of the publications cannot be determined.

RELEVANCE OF THE STUDY

This study presents an informative systematic bibliometric analysis of the existing worldwide research on structured health education interventions in the management of hypertension. It presents an overview of the trends in the existing research, highlighting the prominent authors, influential journals, collaboration networks, and emerging trends in the subject domain, thus contributing to the existing knowledge base by presenting an overview of the lifestyle-based hypertension research

AUTHORS CONTRIBUTION

All authors have contributed equally.

FINANCIAL SUPPORT AND SPONSORSHIP

Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work, the authors used ChatGPT (OpenAI) to assist with language editing and structuring of the manuscript. The tool was not used for data analysis, interpretation, or generation of scientific content, After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the final manuscript

REFERENCES

1. Global report on hypertension: the race against a silent killer [Internet]. [cited 2025 Nov 3]. Available from: https://www.who.int/publications/i/item/9789240081062
2. Banharak S, Potempa K, Limpawattana P, Pamungkas RA, Mahikul W, Jeamjitvibool T, et al. The Existing Interventions to Promote Self-Care and Self-Monitoring Preventing Hypertension Among Thai Risk People: A Scoping Review. Vasc Health Risk Manag. 2025;21:519–44.
3. Teshome DF, Balcha SA, Ayele TA, Atnafu A, Mitike G, Gelaye KA. Health extension workers led home-based multicomponent intervention improves linkage to hypertension manangement in northwest Ethiopia: cluster-randomized controlled trial. Trials. 2025 May 19;26(1):163.
4. Donthu N, Kumar S, Mukherjee D, Pandey N, Lim WM. How to conduct a bibliometric analysis: An overview and guidelines. J Bus Res. 2021 Sep 1;133:285–96.
5. Cobo MJ, López-Herrera AG, Herrera-Viedma E, Herrera F. An approach for detecting, quantifying, and visualizing the evolution of a research field: A practical application to the Fuzzy Sets Theory field. J Informetr. 2011 Jan 1;5(1):146–66.
6. Lou Y, Sun N, Zhang M, Qiu Y, Wang J, Chen J. Trends in exercise for hypertension: a bibliometric analysis. Front Cardiovasc Med. 2023 Oct 23;10:1260569.
7. Tam HL, Wong EML, Cheung K. Effectiveness of Educational Interventions on Adherence to Lifestyle Modifications Among Hypertensive Patients: An Integrative Review. Int J Environ Res Public Health. 2020 Apr;17(7):2513.
8. Le MH, Nguyen TK, Pham TT, Pham TT, Tran VD. Effectiveness of a Health Education Program in Hypertensive Patients with Dyslipidemia and/or Microalbuminuria: A Quasi-Experimental Study in Vinh Long Province, Vietnam. Healthcare. 2023 Aug 4;11(15):2208. doi:10.3390/healthcare11152208 PubMed PMID: 37570448; PubMed Central PMCID: PMC10418689.
9. Zhang H, Xing Y, Tang Q, Su J. Global research trends and hotspots in digital health in hypertension: A comprehensive bibliometric analysis (1992–2025). Digit Health. 2026 Jan 30;12:20552076261416710.
10. Yasli G, Damar M, Özbiçakci Ş, Alici S, Pinto AD. Primary care research on hypertension: A bibliometric analysis using machine-learning. Medicine (Baltimore). 2024 Nov 22;103(47):e40482..