

# AYURVEDIC MEDICINE AND ITS MARKETING PERSPECTIVES: A BIBLIOMETRIC EVALUATION OF RESEARCH TRENDS

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## Abstract

This study describes a comprehensive bibliometric analysis of scholarly publications on the arena of Ayurvedic medicines in the context of marketing, aiming to delineate the global research patterns in this field. Sourcing data from several reputable academic journals from 1980 to 2024 identified key research clusters, prolific sources of data. Interpretations of citation data reveal the impactful works that have shaped understanding and discourse on Ayurvedic medicines in the context of marketing. Data extracted from PubMed data base and the final number of document results is 143. The analysis also uncovers emerging trends, shifts in research methodologies, and the practical implications of ayurvedic medicines in the context of marketing. The mapping process is done by using R tool (Biblioshiny) and VOS Viewer. The search methodology involves focusing on a specific subject area and using titles, keywords, and abstracts of the study materials. The search methodology involves focusing on a specific subject area and using titles, keywords, and abstracts of the study materials.

**Keywords:-** Bibliometrics, Ayurvedic Medicines, Marketing, Systematic Review, R Tool, Vosviewer.

Ayurvedic medicine, a holistic system of healthcare rooted in the Indian subcontinent, has garnered increasing global attention in recent years. As the demand for Ayurvedic products and services grows, understanding the marketing dynamics within this unique sector becomes crucial. (Chandra, 2016)

This introduction will delve into the intersection of Ayurvedic medicine and marketing, exploring the opportunities and challenges presented by this evolving landscape.

Ayurveda, often translated as “the science of life,” emphasizes a holistic approach to health and well-being, focusing on the interconnectedness of

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mind, body, and spirit. This ancient practice has experienced resurgence in popularity, driven by factors such as growing consumer interest in natural and alternative medicine, increasing awareness of the limitations of conventional healthcare systems, and the globalization of traditional knowledge systems. (Pandey et al., 2013). Despite its growing popularity, Ayurvedic medicine faces unique marketing challenges. One significant hurdle is the lack of standardization and regulation in the industry, leading to concerns about product quality, efficacy, and safety. (Health: Ayurvedic medicine, 2022). Additionally, Ayurvedic practitioners often struggle to communicate the complexities of this ancient system to a modern audience accustomed to conventional medical terminology and treatment approaches. Ayurvedic sector presents significant marketing opportunities. The growing global demand for natural and holistic healthcare solutions creates a receptive market for Ayurvedic products and services. (Patwardhan et al., 2005). Moreover, the increasing accessibility of information through digital platforms allows Ayurvedic practitioners and businesses to reach a wider audience and educate consumers about the benefits of this traditional system of medicine.

Bibliometric analysis is a valuable tool for systematically measuring and evaluating the impact and dissemination of academic research. Through the use of bibliometric indicators such as citation metrics, co-authorship patterns, and keyword co-occurrence, researchers can identify emerging trends, locate knowledge gaps, and highlight key research contributions

(Zupic&Èater, 2015). This approach deepens understanding of the current research landscape and helps shape future academic pursuits. In the social sciences, bibliometric analyses have explored diverse fields such as sociology, psychology, political science, and economics (Small, 1999), revealing the importance of interdisciplinary collaboration and the evolving nature of research in addressing complex societal issues. By mapping the existing literature, researchers can identify the most influential works and areas of growing interest, directing future research and policy-making efforts (Chen et al., 2021).

This paper aims to contribute to bibliometric research by offering a detailed analysis of academic publications and practices within the social sciences. Using advanced bibliometric methods, we seek to illuminate the structural and thematic components of the research field, providing insights into the development and spread of knowledge. Our analysis aims to improve understanding of the intellectual landscape of the social sciences, highlight significant contributions, and suggest future research directions. Bibliometric analysis techniques, a quantitative method for examining academic publications through statistical approaches (Zhong et al., 2016). The process involves both citation analysis and content analysis. Citation analysis reveals the relationships between citing and cited publications, as well as interactions between researchers (Peris et al., 2018). This helps visualize sub-fields and the intellectual connections within them. Content analysis, on the other hand, identifies the dominant topics of interest

by analyzing the frequency of keywords and other patterns. This analytical approach (van Meeteren et al., 2016; Leung et al., 2018) is typically applied after citation network analysis to explore existing research areas. Through bibliometric analysis, researchers can gain insights into the current scope and development of a specific research domain by examining publication and citation records. Additionally, this analysis aids in identifying cognitive structures, thematic clusters, and related discoveries in the field.

RQ1 What is the trend and global patterns about the ayurvedic medicines in the context of marketing.

### Objectives of the Study

- To identify the most impactful contributions, and uncover the evolution and interconnection of themes within the field over 1980 to 2024 period.

### Methodology

This study employed a systematic literature review to investigate the intersection of Ayurvedic medicine and marketing strategies. Data were meticulously extracted from the PubMed database, encompassing publications from January 1980 to September 2024. The search utilized the specific keywords “Ayurvedic Medicine” and “Marketing” to identify relevant studies. This comprehensive search yielded a total of 143 articles. Inclusion criteria were applied the marketing aspects of Ayurvedic practices, including promotional techniques, market trends, and consumer

behavior related to Ayurvedic products and services. The selected articles were then thoroughly analyzed to synthesize key findings, identify prevailing themes, and highlight gaps in the existing literature, thereby providing a robust foundation for the study’s objectives (Weber, O., & Feltmate., 2018). Bibliometric analysis serves as a vital method for identifying and mapping the body of literature within specific research areas. By applying bibliometric techniques, scholars can reveal patterns of intellectual growth, including trends in publications, citation behaviors, key authors, and highly referenced works (Pritchard, 1969). Utilizing a bibliometric approach, this study adds to the expanding body of research that leverages quantitative methods to trace the development of various fields. It provides a systematic and data-driven perspective on the progression of Ayurvedic medicine and marketing research.

The methodology for this bibliometric and scientometric analysis incorporates two key tools: the Biblioshiny application from the bibliometrix 4.1.2 package in R (Aria & Cuccurullo, 2017) for performance analysis and VOS viewer 1.6.17 for network visualization (Van Eck & Waltman, 2010). These methods have been widely applied in prior review studies across various contexts, such as those by Au-Yong-Oliveira et al. (2021), de Bruyn et al. (2023), and Soliman et al. (2021).

### Results and discussion

The first analysis reveals a summary of the performance of the selected publications, as presented in table 1.

**Table 1**  
**Performance analysis**

<b>Main Information About Data</b>	
Time span	1980-2024
Sources (Journals, Books etc)	98
Documents	143
Annual Growth Rate per cent	4.84
Documents Average Age	10.1
<b>Documents Contents</b>	
Keywords Plus (ID)	584
Author's Keywords (DE)	584
<b>Authors</b>	
Authors	553
Authors of single-authored docs	21
<b>Authors Collaboration</b>	
Single-authored docs	25
Co-Authors per Doc	4.34
International co-authorship per cent	13.99

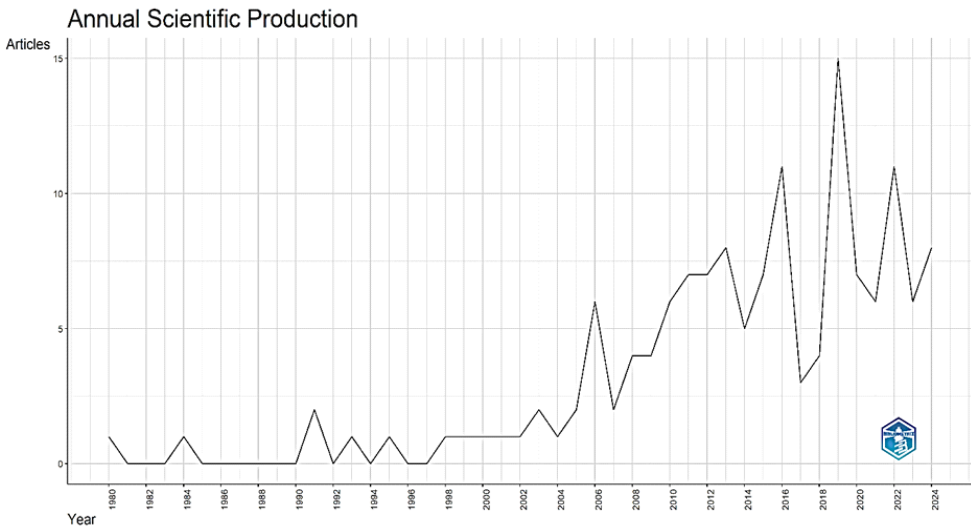
*Source: Generated by the author.*

Table 1 provides an overview of bibliometric data related to Ayurvedic medicine and marketing research, spanning from 1980 to 2024. A total of 98 sources, including journals and books, have contributed to 143 documents, reflecting a steady annual growth rate of 4.84 per cent. The average age of documents is 10.1 years, though no citations or references are currently indicated in this dataset. The keywords associated with these documents are extensive, with 584 entries for both Keywords Plus (ID) and Author's Keywords (DE). The analysis involved contributions from 553 unique authors, with 21 of them contributing single-authored papers. In terms of collaboration, there are 25 single-authored

documents, with an average of 4.34 co-authors per document. International co-authorship stands at 13.99 per cent, highlighting a degree of global collaboration in this research domain.

Figure 1, describes the annual scientific production in the field of Ayurvedic medicine and marketing research from 1980 to 2024. The trend shows a relatively low number of publications between 1980 and 2000, with only sporadic activity and minimal annual output during these early years. However, starting around 2004, there is a noticeable increase in scientific activity, with several peaks in publication output. Significant spikes in the number of published articles can be observed around 2008, 2014, and 2017, reaching as high as 15 articles per year.

**Figure 1**  
**Annual Scientific Production**



Source: Compiled by Authors (Biblioshiny)

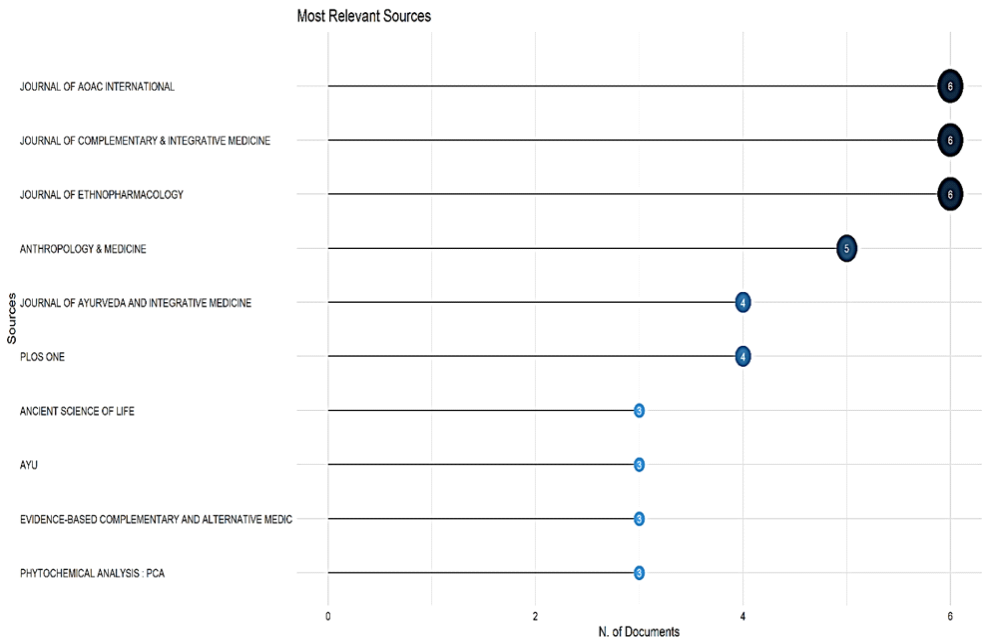
After 2017, the publication rate fluctuates, indicating varying levels of research activity, with another rise in 2024. This pattern suggests growing scholarly interest in Ayurvedic medicine and its marketing aspects, particularly in the last two decades, reflecting the field’s expansion and academic engagement.

Figure 2 shows that the most relevant sources for publications on Ayurvedic medicine and marketing research, measured by the number of documents published. Three journals—*Journal of AOAC International*, *Journal of Complementary & Integrative Medicine*, and *Journal of Ethnopharmacology*—lead the list, each contributing six documents to the field. Following closely, *Anthropology & Medicine* published five documents. Other notable sources include *Journal of Ayurveda and Integrative Medicine* and *PLOS ONE*, each contributing four documents. A few

additional sources, including *Ancient Science of Life*, *AYU*, *Evidence-Based Complementary and Alternative Medicine*, and *Phytochemical Analysis*, contributed three documents each. This figure highlights the diverse range of interdisciplinary journals contributing to the research on Ayurvedic medicine, reflecting its growing integration across complementary medicine, ethnopharmacology, and broader health sciences.

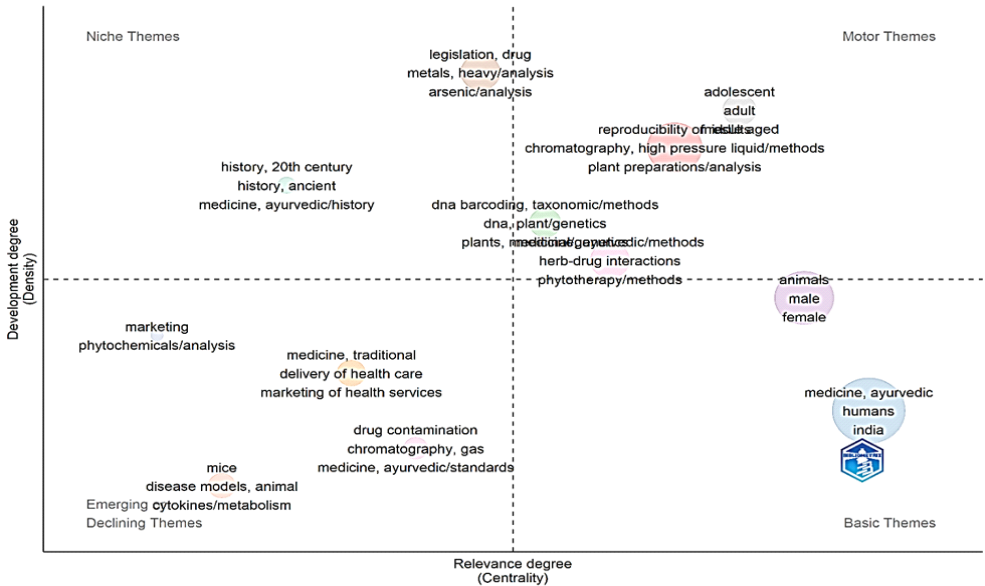
The thematic map categorizes key research themes in Ayurvedic medicine and marketing based on their development and relevance. It is divided into four quadrants, representing different types of themes, **Niche Themes**: These are specialized and highly developed topics with lower relevance to the core field. Examples include “drug legislation,” “heavy metal analysis,” and “arsenic analysis,” indicating a focus on regulatory

**Figure 2**  
**Most Relevant Sources**



Source: Compiled by Authors (Biblioshiny)

**Figure 3**  
**Thematic Map**

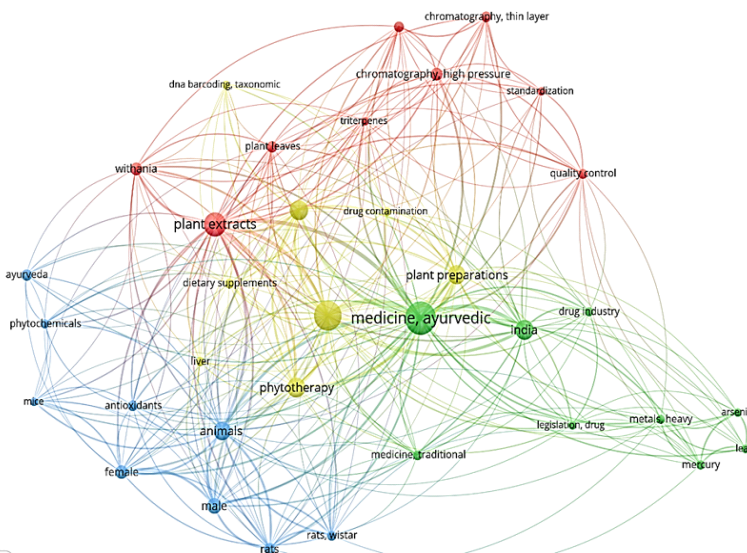


Source: Compiled by Authors (Biblioshiny)

and toxicological aspects of Ayurvedic medicine. **Motor Themes:** These themes are highly developed and central to the field, representing active areas of research. Topics such as “chromatography methods,” “plant preparations/analysis,” and “herb-drug interactions” fall in this quadrant, signifying their importance in both the scientific and practical application of Ayurvedic medicine. **Basic Themes:** These are fundamental but less developed areas that serve as the foundation for the field. Key themes include “Ayurvedic medicine,” “humans,” and “India,” highlighting the geographic and demographic focus of Ayurvedic research. The presence of “animals,” “male,” and “female” further emphasizes the basic scientific studies conducted on

gender and species differences in Ayurvedic treatments. **Emerging or Declining Themes:** This quadrant includes themes that are either under development or potentially declining in relevance. Themes like “marketing,” “phytochemicals analysis,” and “delivery of health care” suggest emerging interest in the commercialization and healthcare system integration of Ayurvedic practices, while “disease models” and “cytokines/metabolism” could represent declining or under-explored areas. Overall, the map reveals a well-rounded research field with strong fundamental areas (e.g., Ayurvedic medicine in humans) and growing interest in regulatory, scientific methods, and healthcare delivery systems within Ayurveda.

**Figure 4**  
**Network Visualization Key Words**



Source: Compiled by Authors (Vosviewer)

Figure 4, describes that the network visualization represents a keyword co-occurrence map, clustering related terms from the Ayurvedic medicine and marketing research field. The nodes represent keywords, and the links between them indicate their co-occurrence in research publications. The size of the nodes corresponds to the frequency of the keywords, while different colors represent distinct thematic clusters.

**Red Cluster (Plant-based research focus):** The central theme in this cluster is “plant extracts,” which connects strongly to keywords such as “chromatography,” “standardization,” and “quality control.” This indicates a focus on the chemical and analytical study of plant materials used in Ayurvedic medicine, with emphasis on laboratory methods like “chromatography” for standardizing and analyzing medicinal compounds. **Green Cluster (Ayurvedic medicine and regulation):** Keywords like “medicine, ayurvedic,” “India,” and “plant preparations” dominate this cluster. There is a strong link between Ayurvedic practices, the geographic focus on India, and the broader context of drug industry regulations, including “drug contamination,” “heavy metals,” and “legislation.” This suggests research into regulatory aspects and safety concerns in Ayurvedic medicine, especially related to the contamination of herbal products with heavy metals such as “arsenic” and “mercury.” **Blue Cluster (Animal models and biological studies):** The keywords “animals,” “mice,” “male,” “female,” and “rats” form the core of this cluster, indicating that many studies use animal models to examine the

biological effects of Ayurvedic treatments. Connections to “phytochemicals,” “antioxidants,” and “liver” suggest that much of this research explores the physiological and medicinal properties of plants used in Ayurveda through experimental animal studies. **Yellow Cluster (Dietary supplements and herbal applications):** Keywords like “dietary supplements,” “liver,” and “phytotherapy” characterize this smaller cluster, pointing to research on the therapeutic uses of Ayurvedic plants and herbal supplements. This cluster is closely linked to “plant extracts,” indicating the overlap in research between chemical analysis and practical health applications.

Overall, the network highlights a rich interplay between the scientific analysis of Ayurvedic plant materials, regulatory and safety concerns, experimental biological research using animals, and the broader applications of Ayurvedic medicine in health and therapy. Each cluster contributes to an understanding of the diverse approaches and concerns within Ayurvedic research.

## Conclusion

The intersection of Ayurvedic medicine and marketing presents a dynamic landscape full of potential and complexities. As Ayurveda gains global recognition, navigating the ethical and practical considerations of marketing becomes crucial for its sustainable growth and integration into mainstream healthcare. (Ayurvedic PCD Pharma Franchise | Ayurvedic Medicine Franchise Company - Swastik Ayurveda, 2019) Striking a balance between preserving the authenticity and integrity of this ancient



practice while effectively communicating its value to a modern audience is paramount. By embracing transparency, responsible marketing practices, and a commitment to education, Ayurvedic practitioners and businesses can foster trust and understanding, ensuring that the benefits of Ayurveda reach a wider audience seeking holistic well-being. (Business Opportunity, 2023) Ultimately, successful marketing in this sector relies on honoring the principles of Ayurveda while adapting to the evolving demands of the global marketplace. Ayurvedic medicine and marketing offers a promising yet complex landscape.

As Ayurveda continues to gain global traction, understanding its integration into modern markets becomes essential for its sustainable growth and mainstream acceptance. This study's bibliometric analysis has shed light on the evolving nature of Ayurvedic research and marketing strategies, revealing emerging trends, influential works, and areas of increasing scholarly interest. By leveraging modern tools like Biblioshiny and VOS viewer, the analysis uncovers patterns of collaboration, key research clusters, and thematic evolution in the field. The findings highlight not only the growing academic focus on Ayurvedic products

but also the regulatory, scientific, and ethical challenges in marketing these traditional systems to a global audience. Moving forward, effective and ethical marketing strategies, grounded in transparency and respect for Ayurvedic principles, will be crucial in ensuring the field's credibility and expanding its reach to meet the rising demand for holistic healthcare solutions.

### **Limitations and Future Scope of Research**

In this work, the authors have taken data from the PubMed database, so for better and more intensive analysis, other databases like Scopus, Web of science, Lensetc., can be integrate for a more holistic coverage of the research area. In the process of searches using only the 'Ayurvedic Medicine and Marketing' keyword, the authors have found a limited number of papers, so for a comprehensive study with 'Ayurvedic Medicine and Marketing' and some other included keywords, may give some new dimensions for the future researcher. This study has included only the "articles" category of documents, but in future research, inclusion of chapters in edited books and conference proceedings, could yield new research insights, for the area of Ayurvedic Medicine and Marketing.

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