









REVIEW

Traditional and Complementary Medicine in the Management of Chronic Diseases in Older Adults: A Review of Scientific Literature and Bilbiometric Analysis

Medicina tradicional y complementaria en el tratamiento de enfermedades crónicas en adultos mayores: revisión de la literatura científica y análisis bibliométrico

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ABSTRACT

Introduction: this study systematically reviewed 21 scientific articles published between 2002 and 2024 to examine the role of traditional and complementary medicine (TCM) in promoting health, healthy aging, and overall well-being among older adults with chronic diseases.

Method: a mixed-methods approach was employed, combining bibliometric and qualitative analyses to identify patterns of use, regional approaches, cultural dimensions, and proposals for the institutional integration of TCM.

Results: the findings revealed that the adoption of TCM was influenced not only by the perceived efficacy of interventions but also by sociocultural, spiritual, and structural factors. TCM emerged as a significant alternative in primary care, particularly in contexts with limited access to biomedical services, supporting autonomy, community resilience, and health equity. The review also identified potential benefits of integrating TCM into healthcare systems, alongside risks related to the lack of regulation, especially for older adults with polypharmacy. Additionally, regulatory gaps, institutional resistance, and insufficient cultural competency training among healthcare professionals were observed.

Conclusions: the study proposed the development of intercultural care models to recognize the value of traditional knowledge and ensure its ethical and safe incorporation into healthcare systems. Future research should evaluate the clinical and sociocultural impacts of TCM, explore the role of healthcare personnel in its implementation, and promote participatory policy-making to strengthen inclusive and comprehensive care for older adults or unstructured, no longer than 250 words; written in the past tense and in the third person singular.

Keywords: Integrative Medicine; Complementary Therapies; Chronic Diseases; Acupuncture; Herbal Medicine.

RESUMEN

Introducción: este estudio revisó sistemáticamente 21 artículos científicos publicados entre 2002 y 2024 con el objetivo de examinar el papel de la medicina tradicional y complementaria (MTC) en la promoción de la salud, el envejecimiento saludable y el bienestar integral de los adultos mayores con enfermedades crónicas.

Método: se empleó un enfoque de métodos mixtos, combinando análisis bibliométricos y cualitativos para identificar patrones de uso, enfoques regionales, dimensiones culturales y propuestas para la integración institucional de la MTC.

Resultados: los hallazgos revelaron que la adopción de la MTC no se explicaba únicamente por la eficacia

percibida de las intervenciones, sino que también estaba profundamente influenciada por factores socioculturales, espirituales y estructurales. La MTC emergió como una alternativa significativa en la atención primaria, especialmente en contextos con acceso limitado a servicios biomédicos, fomentando la autonomía, la resiliencia comunitaria y la equidad en salud. La revisión también identificó el potencial de integrar la MTC en los sistemas de salud, junto con los riesgos asociados a su falta de regulación, particularmente en adultos mayores con polifarmacia. Además, se evidenciaron vacíos regulatorios, resistencia institucional y una formación insuficiente en competencias culturales entre los profesionales de la salud.

Conclusiones: el estudio propuso el desarrollo de modelos de atención intercultural que reconozcan el valor del conocimiento tradicional y aseguren su incorporación ética y segura en los sistemas de salud. Se recomendó que futuras investigaciones evalúen los impactos clínicos y socioculturales de la MTC, el rol del personal sanitario en su implementación y la formulación participativa de políticas públicas inclusivas que fortalezcan la atención integral en la vejez.

Palabras clave: Medicina Integrativa; Terapias Complementarias; Enfermedades Crónicas; Acupuntura; Fitoterapia.

INTRODUCTION

Population aging is a critical challenge for contemporary healthcare systems, particularly in the management of chronic diseases. The increase in life expectancy is accompanied by a higher prevalence of conditions such as hypertension, diabetes, musculoskeletal disorders, and neurodegenerative diseases, which disproportionately affect older adults.^(1,2) In this context, the pursuit of accessible, culturally relevant, and complementary therapeutic approaches to conventional medicine has spurred renewed interest in traditional and complementary medicine (TCM) as a strategy for promoting comprehensive care and well-being in old age.

TCM encompasses a wide range of therapeutic practices, including herbal medicine, acupuncture, massage therapy, tai chi, spiritual healing, and ancestral knowledge rooted in indigenous traditions.⁽³⁾ Its growing relevance lies in its holistic and culturally aligned approach to health, addressing physical, emotional, and spiritual well-being in ways that conventional biomedical models often overlook. While TCM has historically been central in regions such as Asia, Africa, and Latin America, recent decades have seen increasing adoption in industrialized countries, where it is valued for promoting therapeutic autonomy and offering alternatives to the limitations of strictly biomedical care.⁽⁴⁾

For older adults, TCM serves not only as a therapeutic option but also as a symbolic resource of cultural identity and resistance. Qualitative studies highlight that engaging in TCM is often embedded within frameworks of meaning that integrate spirituality, family traditions, and intergenerational healing narratives.^(5,6) Moreover, TCM is frequently perceived as offering more humane, holistic, and personalized care than the fragmented and technocratic nature of conventional healthcare systems.^(7,8)

Despite scientific and technological advances, biomedical models frequently fail to address the multidimensional needs of older adults with chronic conditions. Their emphasis on pharmacological treatments and acute interventions often overlooks essential psychosocial, cultural, and spiritual dimensions, contributing to gaps in continuity of care, reduced patient satisfaction, and the marginalization of traditional practices that align closely with older adults' lived experiences.

This focus on TCM is particularly relevant in contexts of structural healthcare disparities, such as limited access to biomedical services in rural or underserved areas, and cultural disparities, where health systems often fail to recognize traditional beliefs, worldviews, and ancestral knowledge. TCM thus emerges as a culturally aligned alternative that responds to unmet emotional, symbolic, and identity-based needs in aging populations.

However, integrating TCM into formal healthcare systems faces significant challenges, including a lack of regulation, limited institutional familiarity, inadequate training in intercultural competencies among healthcare professionals, and risks of adverse interactions with conventional medications.^(9,10) In multiethnic and rural contexts, the coexistence of biomedical and traditional knowledge systems is often parallel and conflictual, lacking clear mechanisms for articulation or mutual recognition.⁽¹¹⁾

Given these dynamics, a systematic review of the literature is warranted to examine the use, characteristics, risks, and opportunities of TCM among older adults with chronic diseases. This study makes a novel contribution by addressing a critical gap in the literature: previous reviews have focused on isolated interventions or clinical outcomes, often neglecting the broader cultural, institutional, and regional dimensions of TCM. By combining bibliometric analysis with qualitative synthesis, this review provides a comprehensive, multidimensional perspective that integrates usage patterns, geographic variations, cultural significance, and proposals for institutional integration. This approach goes beyond summarizing evidence; it establishes a unique, data-driven framework for understanding how TCM intersects with geriatric care, identity, and health equity across diverse contexts.

METHOD

This study adopted a quantitative, non-experimental, descriptive, and retrospective approach, employing a bibliometric design to examine the use of traditional and complementary medicine (TCM) in managing chronic diseases among older adults through a systematic review of the scientific literature. Additionally, the criteria outlined in the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) protocol were integrated to ensure a methodologically rigorous process for document selection and screening.⁽¹²⁾

Sources of Information and Search Strategy

Scientific information was collected using two high-quality academic databases, Scopus and Two multidisciplinary academic databases, Scopus and Web of Science (WoS), were selected for this review due to their broad international coverage, rigorous indexing criteria, and integrated bibliometric tools that enable standardized extraction of citation data and metadata. These characteristics are essential for ensuring methodological consistency and comparability across studies when performing both bibliometric analyses and qualitative synthesis.

Regional databases such as SciELO, LILACS, and AJOL were not included because they have limited interoperability with bibliometric software and often lack standardized citation metadata necessary for trend analyses. Additionally, previous systematic reviews on health-related topics^(13,14) highlight Scopus and WoS as the most widely recognized sources for constructing high-quality global corpora.

However, we acknowledge that excluding these regional repositories represents a potential limitation, especially given that traditional and complementary medicine (TCM) is deeply influenced by local cultural practices. While Scopus and WoS capture many high-impact international studies, certain culturally specific or community-based research—particularly from Latin America, Africa, and Southeast Asia—may be underrepresented.

To address this limitation, future research could incorporate region-specific databases and grey literature sources to improve representativeness and strengthen insights into TCM practices that are often transmitted locally.

For Scopus the following equation was used: TITLE-ABS-KEY(“traditional medicine” OR “complementary medicine” OR “alternative medicine” OR “integrative medicine” OR “folk medicine” OR “ethnomedicine”) AND TITLE-ABS-KEY(“chronic disease” OR “chronic condition” OR “non-communicable disease” OR “NCDs”) AND TITLE-ABS-KEY(“older adults” OR elderly OR “aged population” OR “older people” OR “senior citizens”) and for WoS the following equation: TS=(“traditional medicine” OR “complementary medicine” OR “alternative medicine” OR “integrative medicine” OR “folk medicine” OR “ethnomedicine”) AND TS=(“chronic disease” OR “chronic condition” OR “non-communicable disease” OR “NCDs”) AND TS=(“older adults” OR elderly OR “aged population” OR “older people” OR “senior citizens”)

Inclusion and exclusion criteria

To ensure transparency and reproducibility, this review applied explicit inclusion and exclusion criteria aligned with PRISMA 2020 guidelines:⁽¹⁵⁾

Inclusion Criteria

- Time Frame: articles published between January 2002 and March 2024.
- Population: studies explicitly involving older adults, defined as individuals aged ≥60 years, consistent with the World Health Organization (WHO) classification of older populations.
- Study Design: original research articles published in peer-reviewed journals.
- Scope: Articles addressing the use, perceptions, outcomes, or integration of traditional and complementary medicine (TCM) in managing chronic diseases among older adults.
- Language Restriction: only studies published in English and Spanish were included, as these languages allowed consistent assessment of qualitative findings.

Exclusion Criteria

- Publication Types: editorials, letters to the editor, conference proceedings, book chapters, dissertations, opinion pieces, and commentary articles were excluded.
- Incomplete Information: articles lacking key details (e.g., type of TCM intervention, geographic context, or targeted chronic condition) were excluded because they could not contribute meaningfully to the synthesis.
- Duplicate Records: duplicates identified across Scopus and Web of Science were removed following title-based and metadata-based matching.
- Non-Relevant Scope: articles focusing exclusively on pediatric populations, acute diseases, or TCM applications unrelated to chronic disease management in older adults were excluded.

Applying these criteria ensured that the final corpus consisted of 21 articles that addressed the objectives of this study, balancing methodological rigor with conceptual relevance.

Procedure for data extraction and cleaning

The results obtained from the search equations are exported in .csv format from Scopus and .xlsx from WoS. Subsequently, duplicate and irrelevant records were cleaned. This process included reading the title, abstract, and full text in doubtful cases. To document this procedure, the PRISMA model flowchart criteria were applied, allowing the stages of document selection and exclusion to be transparently detailed (figure 1).

The document selection and exclusion process were documented according to the PRISMA 2020 guidelines,⁽¹⁵⁾ which ensured the transparency and reproducibility of the study.

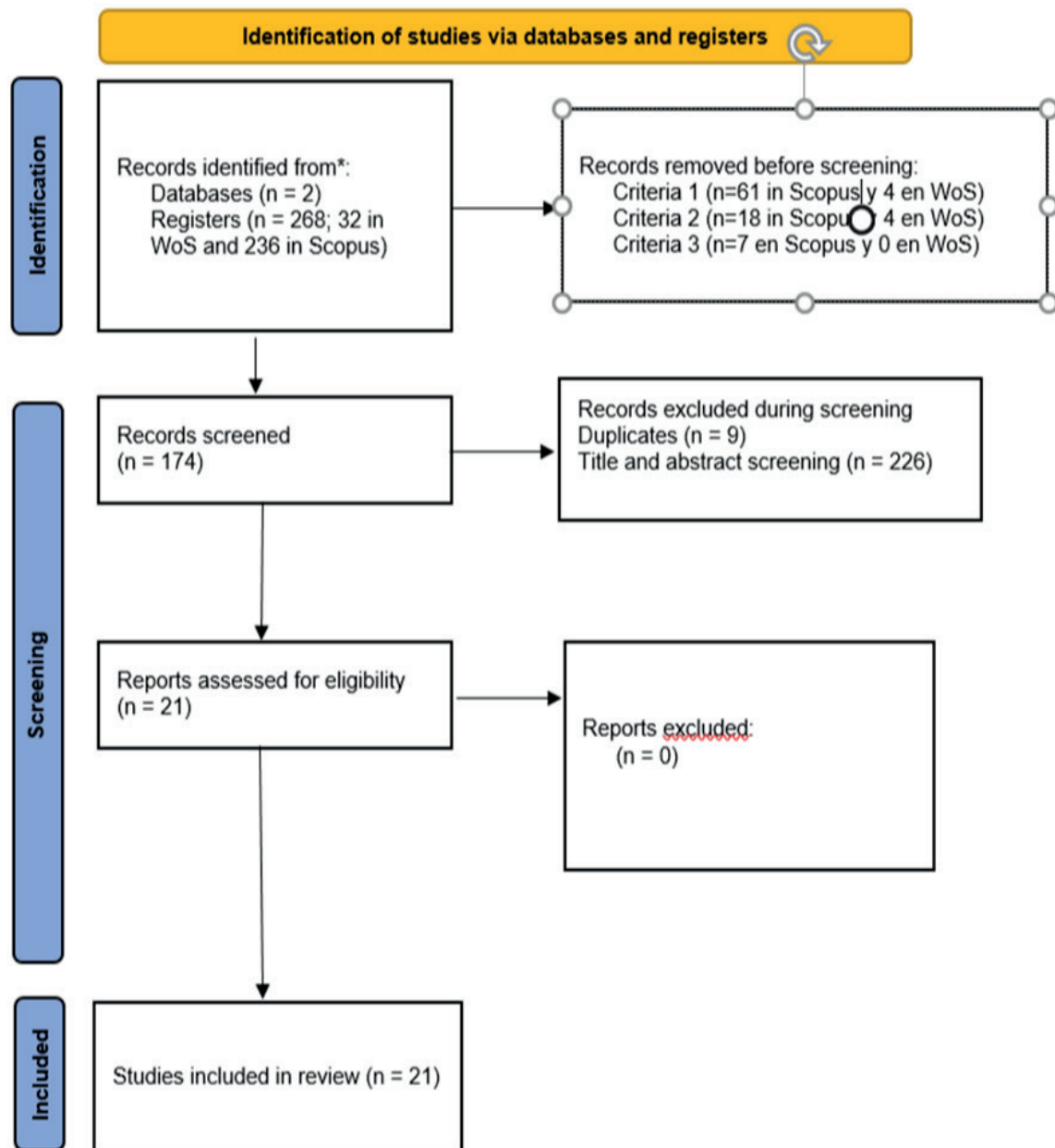


Figure 1. Flow diagram of the study selection process

After applying the inclusion and exclusion criteria, 21 studies were finally selected that met the methodological and thematic requirements for analysis. These articles constitute the final corpus of this review.

To support the bibliometric and qualitative analyses, we systematically organized the extracted data into a summary table detailing authors, countries of origin, types of TCM interventions, chronic conditions, and key findings. This structure facilitated a clearer interpretation of geographic, cultural, and therapeutic patterns across the final corpus.

Bibliometric Analysis

Bibliometric analysis was conducted using R software (version 4.4.2).⁽¹⁶⁾ A suite of specialized packages was employed for data processing and cleaning, selected for their ability to optimize the management and analysis of bibliographic records.

- readxl: used to import records extracted from Web of Science (WoS) in. xls format.
- Data table: employed for efficient reading and management of large datasets from Scopus csv format.
- dplyr: applied for data manipulation, enabling dataset merging, filtering records using Boolean search terms, and selection of relevant variables.
- openxlsx: utilized to export processed and merged datasets xlsx format.
- ggplot2 and gridExtra were used to create graphical representations of publication and citation trends over the analyzed period.

Bibliometric records from the Web of Science (WoS) and Scopus were integrated after standardizing titles to lowercase. Duplicate records were identified and removed by title comparisons. A Boolean filtering process was applied to ensure thematic relevance, selecting only articles explicitly containing key terms such as “traditional medicine,” “complementary medicine,” “alternative medicine,” “integrative medicine,” “folk medicine,” “ethnomedicine,” “chronic disease,” “chronic condition,” “non-communicable disease,” “NCDs,” “older adults,” “aged population,” “older people,” and “senior citizens” in the title or abstract.

To maintain empirical focus, articles classified as reviews or exclusively bibliometric studies were excluded. Productivity, measured as the number of publications, and impact, assessed through citations received, were synthesized by year and visualized using cumulative area charts and bar graphs. These visualizations facilitated the identification of emerging trends in the field. Additionally, the most influential journals were analyzed based on their contributions to the topic.

To explore the structure and interconnections within the research field, VOSviewer software (version 1.6.20) was used to generate co-occurrence maps of the keywords. These graphical representations provided a detailed view of the conceptual and thematic relationships in the literature.

Specifically, the keyword co-occurrence analysis grouped terms based on their semantic relationships and frequency of co-occurrence. The resulting thematic map displayed clusters represented by distinct colors, while the node size indicated keyword frequency. Additionally, the average publication year was visualized using a chromatic gradient ranging from dark blue (older studies, pre-2010) to yellow (recent studies, up to 2025). This approach enabled the identification of emerging thematic areas, the temporal evolution of research priorities, and the conceptual structure of the literature on TCM.

Qualitative Synthesis

In addition to the bibliometric analysis, this study conducted a qualitative synthesis of the 21 articles included in the final corpus. Following the guidelines of PRISMA 2020,⁽¹⁵⁾ qualitative data were extracted systematically from each study, focusing on objectives, methodological approaches, cultural perspectives, types of traditional and complementary medicine (TCM) addressed, chronic conditions targeted, and reported outcomes.

The synthesis followed an iterative thematic coding process:

- Data Extraction: key textual information was collected from abstracts, results, and discussion sections using a structured template.
- Open Coding: two researchers independently coded recurring patterns and emerging themes related to TCM use, cultural perceptions, institutional integration, and patient-reported outcomes.
- Axial Coding and Synthesis: codes were grouped into higher-order themes and aligned with the research questions. Discrepancies between coders were resolved by consensus.
- Triangulation: findings from the qualitative synthesis were integrated with bibliometric results to provide a multidimensional perspective, connecting usage patterns with cultural and institutional contexts.

This process allowed the review to go beyond numerical trends, offering a deeper understanding of the cultural, therapeutic, and regulatory dimensions of TCM adoption among older adults.

RESULTS

Table 1 summarizes the key characteristics of the 21 studies included in this systematic review, providing an overview of authors, countries of origin, types of TCM examined, chronic conditions addressed, and main findings.

Table 1. General characteristics of the studies included in the review

Author	Country	Type of T&CM	Chronic condition addressed	Key findings
Wister et al. ⁽¹⁷⁾	Canada	Alternative therapies	Chronic pain	Improves functionality and quality of life
Bressler ⁽⁹⁾	USA	Phytotherapy	Polypharmacy	Risks of herb-drug interactions
Ness et al. ⁽¹⁾	USA	General T&CM	Chronic diseases	High prevalence and link with preventive health
Willison et al. ⁽¹⁸⁾	USA	Massage therapy	General well-being	Relation to self-efficacy and educational level
Grzywacz et al. ⁽⁷⁾	USA	Various therapies	General health	Influence of age and ethnicity
Chang et al. ⁽¹⁹⁾	Taiwan	Traditional practices	Influenza	Cultural influence on vaccination
Tait et al. ⁽²⁰⁾	USA	General T&CM	Multimorbidity	Personal and social motivations for T&CM use
Yen et al. ⁽²¹⁾	Australia	Alternative doctors	Not specified	Common consultations with alternative doctors
Naja et al. ⁽²²⁾	Lebanon	General T&CM	Chronic conditions	Coexistence of traditional and conventional practices
Peltzer & Pengpid ⁽³⁾	ASEAN	Various	Multiple conditions	High prevalence of T&CM in Southeast Asia
Abdullah et al. ⁽²³⁾	Malaysia	Herbal and spiritual	Dementia	Role of healers in community health
Kharroubi et al. ⁽¹⁰⁾	Lebanon	General T&CM	Various	Proposed culturally focused health model
Ban et al. ⁽¹¹⁾	South Korea	Korean traditional medicine	Nephropathy	Structured intervention with intercultural approach
Macinko et al. ⁽²⁴⁾	Brazil	Meditation and yoga	Emotional health	Frequent use and perceived benefits
Agyeman et al. ⁽⁴⁾	Ghana	Folk healing	Dementia	Community view of care in absence of formal attention
Pasto-Capuz et al. ⁽⁵⁾	Spain	Spirituality and embodiment	General	Symbolic dimension of traditional care
Halpin et al. ⁽⁸⁾	USA	Various	Undisclosed T&CM	Concealment of T&CM use due to clinical judgment
Wang et al. ⁽²⁾	China	Tai chi	Multiple conditions	Benefits of tai chi for healthy aging
Pengpid et al. ⁽²⁵⁾	India	Herbal and spiritual	Multiple	High prevalence and favorable response from traditional system
Kengganpanich et al. ⁽²⁶⁾	Thailand	Traditional folk healing	Depression	Combined use of formal and traditional medicine
Hernández Salinas et al. ⁽⁶⁾	Mexico	Ancestral medicine	Multiple diseases	Cultural importance and legitimization of ancestral care

Productivity analysis and citations

The evolution of scientific production on the use of traditional and complementary medicine (TCM) in managing chronic diseases among older adults between 2002 and 2024 exhibits an intermittent pattern, with certain years standing out in terms of productivity and impact as measured by citations (figure 2).

The year 2005 emerged as the most impactful, recording 123 citations across the three publications. A second notable peak was observed in 2015, with two publications accumulating 93 citations, reflecting a significant academic interest in specific years. The year 2019 stands out for the highest productivity within the analyzed period, with four publications garnering 76 citations, indicating a phase of growing attention to the topic, although with slightly less impact than the aforementioned years.

Other years with moderate productivity included 2013, 2018, and 2019, each with three publications and a total of 57, 62, and 53 citations, respectively, signaling sustained interest during specific periods. In contrast, 2020, 2022, 2023, and 2024 exhibit low productivity and limited citation impact. Notably, publications from 2024 are yet to receive citations, a phenomenon attributable to their recent publication and the time required for academic referencing.

A significant absence of scientific output was observed during extended periods, such as between 2008 and 2012 and between 2016 and 2017, underscoring the sporadic nature of research in this field.

In summary, the scientific production of TCM in the context of chronic disease management in older adults is characterized by fluctuations, with high-citation years reflecting the topic's potential relevance in academic discourse. While recent trends show limited immediate impact, they may signal the onset of a new phase of scientific exploration that is still in development.

While citation count provides a useful measure of influence, it should be interpreted alongside publication frequency to avoid overestimating the scholarly impact. For instance, years with few but highly cited papers

(e.g., 2005 or 2015) may reflect foundational studies, whereas periods with more publications but fewer citations (e.g., 2019) could signal emerging interest, yet limited consolidation. Thus, both indicators must be considered jointly to obtain a nuanced understanding of R&D in the field.

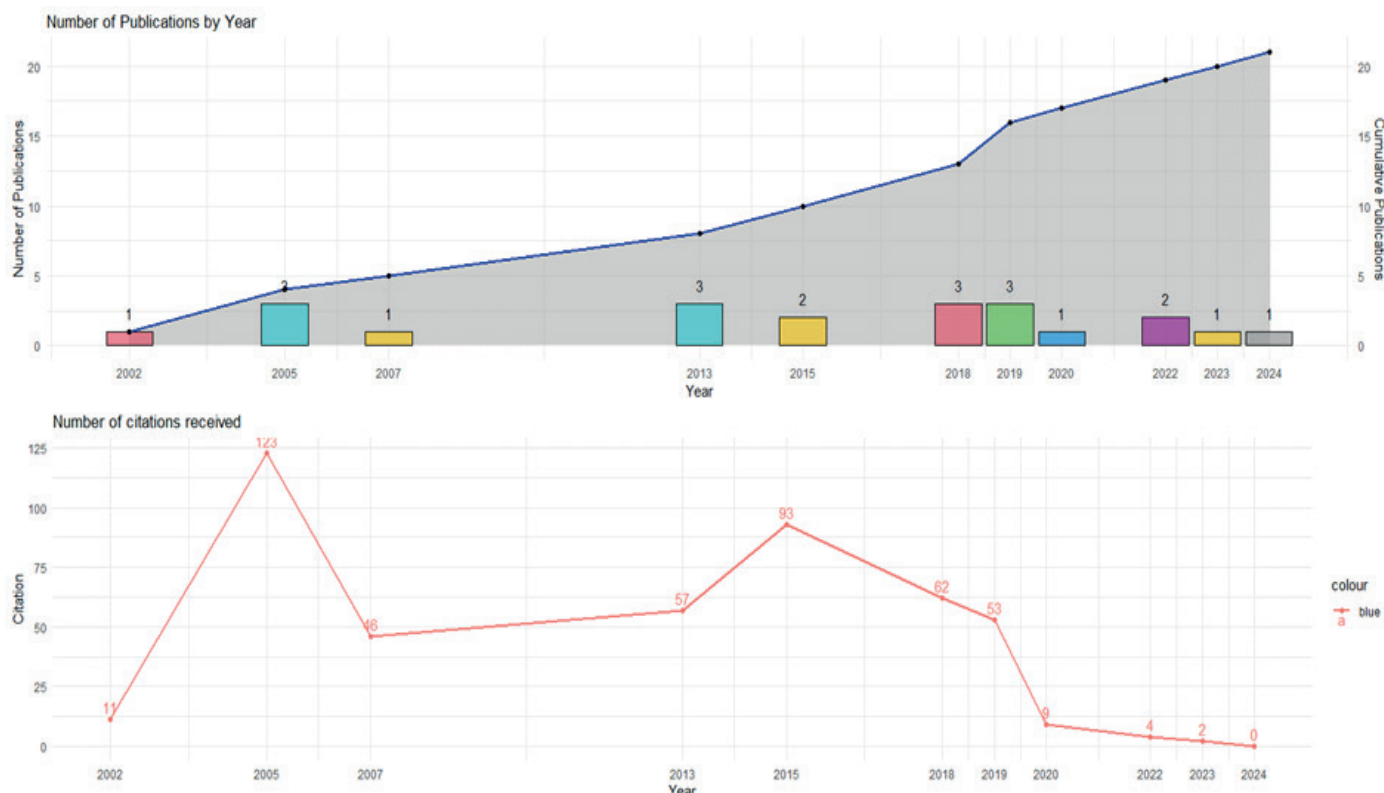


Figure 2. Evolution of publications and citations per year

The graph shows an intermittent growth pattern in the field. Notable citation peaks occur in 2005 and 2015, despite relatively few publications, suggesting high-impact foundational studies. A publication peak in 2019 indicates growing interest, although citation impact remains moderate. The recent years (2022-2024) reflect limited citations due to recency.

Most influential journals

The 21 articles selected for this review were published across 20 scientific journals, reflecting considerable dispersion in the dissemination channels used to address the topic of traditional and complementary medicine (TCM) in managing chronic diseases among older adults. This Analysis of the top ten journals, ranked by the number of articles and total citations (table 2), reveals that *Educational Gerontology* is the only journal with more than one publication (two articles), accumulating 12 citations. While this citation count is modest, the journal's focus on aging closely aligns with the objectives of the study. Conversely, several journals with a single publication stand out because of their high citation impact.

Among these, *The Gerontologist* achieved the highest citation count of 101, indicating a significant influence of the article published therein. A similar pattern is observed in *Studies on Ethno-Medicine* (52 citations) and the *Journal of Health and Social Behavior* (46 citations), suggesting that, despite the limited volume, these articles have garnered substantial recognition within the scientific community. Specialized journals such as *Evidence-Based Complementary and Alternative Medicine* and the *Journal of Evidence-Based Integrative Medicine*, with 41 and 32 citations, respectively, establish themselves as key platforms for research dissemination in this field. Similarly, the *Journal of Alternative and Complementary Medicine* and *BMC Complementary and Alternative Medicine*, with 30 and 29 citations, respectively, maintained a significant presence in advancing knowledge on complementary therapies.

A notable case is that of *vaccine*, with 25 citations. Collectively, these findings indicate that the scientific production of TCM in the context of chronic diseases in older adults is disseminated across a wide range of journals, some highly specialized journals, and others with broader scopes. This dispersion presents opportunities to enhance the visibility of the generated knowledge and guide future publication strategies based on target audiences and methodological approaches.

Table 2. Scientific journals with the highest number of citations on T&CM in older adults

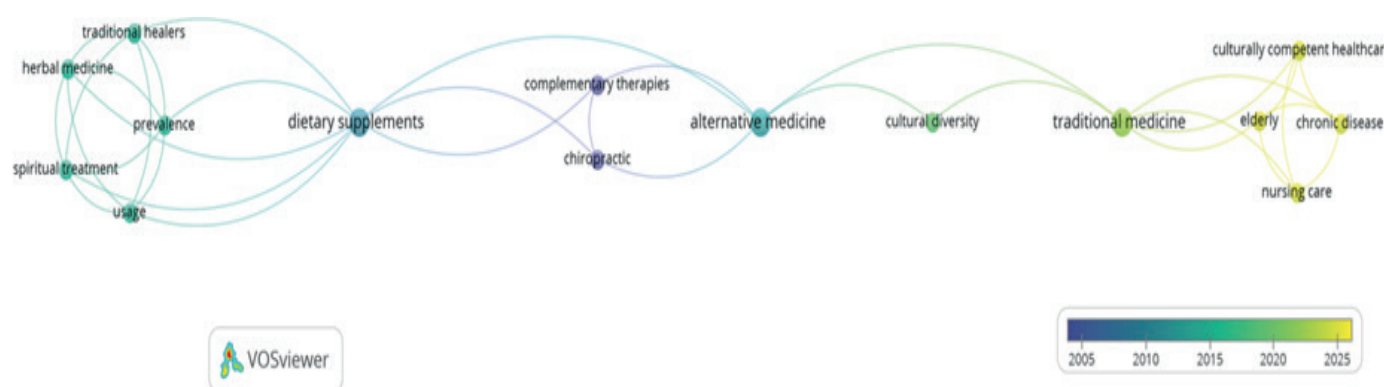
Source title	Documents	Citations
Educational Gerontology	2	12
Gerontologist	1	101
Studies on Ethno-Medicine	1	52
Journal of Health and Social Behavior	1	46
EVIDENCE-BASED COMPLEMENTARY AND ALTERNATIVE MEDICINE	1	41
Journal of Evidence-Based Integrative Medicine	1	32
JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE	1	30
BMC Complementary and Alternative Medicine	1	29
Vaccine	1	25
Journal of Alternative and Complementary Medicine	1	23

Thematic Map

The keyword co-occurrence analysis identified three main thematic clusters that represent the conceptual structure of the literature on traditional and complementary medicine (TCM) in the management of chronic diseases among older adults (figure 3).

- Cluster 1 - Traditional Practices, Spirituality, and Herbal Medicine (Blue; Pre-2010): includes terms such as *herbal medicine*, *spiritual healing*, *traditional healers*, and *prevalence*. Studies in this cluster primarily focus on documenting ancestral practices and exploring their role in managing chronic conditions.
- Cluster 2 - Complementary Therapies, Supplements, and Integrative Care (Green; 2010-2018): includes keywords like *acupuncture*, *dietary supplements*, *complementary therapies*, and *integrative medicine*. This cluster highlights research on clinical applications and patient-reported outcomes of TCM practices, often combining traditional and biomedical approaches.
- Cluster 3 - Cultural Competence, Geriatric Care, and Diversity (Yellow; 2018-2025): includes terms such as *cultural competence*, *geriatric care*, *nursing care*, and *diversity*. This cluster reflects recent research priorities, emphasizing patient-centered care models that integrate traditional knowledge and biomedical systems within culturally sensitive frameworks.

These clusters collectively illustrate the thematic evolution of the field, showing a progression from early descriptive studies to more integrative and culturally adaptive approaches to healthcare for older adults.

**Figure 3.** Thematic map of keyword co-occurrence in TCM studies

Nodes represent frequent keywords; their size reflects frequency of occurrence. Colours indicate average year of publication (chromatic scale: dark blue = years before 2010; yellow = recent publications up to 2025). Clusters represent thematic groupings: (1) traditional practices and spirituality; (2) complementary therapies and supplementation; (3) cultural competence and geriatric care.

Thematic Review

The literature on the use of traditional and complementary medicine (TCM) in older adults with chronic diseases identifies several key dimensions, organized into the following thematic areas:

- Therapeutic Use and Patient Perception: numerous studies have highlighted that older adults turn

to TCM to enhance their quality of life. Ness et al.⁽¹⁾, Macinko et al.⁽²⁷⁾ and Wister et al.⁽¹⁷⁾ reported perceived benefits to physical and emotional health, particularly through practices such as yoga, meditation, and herbal remedies. Chang et al.⁽¹⁹⁾ noted that decisions regarding influenza vaccination are influenced by cultural trust and the concurrent use of traditional therapies. Halpin et al.⁽⁸⁾ identify that some older adults withhold disclosure of TCM use due to fears of clinical judgment, highlighting barriers in patient-provider communication.

- **Cultural and Religious Factors:** spiritual beliefs, cultural heritage, and family dynamics significantly influence TCM adoption. Grzywacz et al.⁽⁷⁾, Agyeman et al.⁽⁴⁾ and Abdullah et al.⁽²³⁾ emphasized that in rural settings and among African and Asian populations, traditional therapies are embedded in symbolic care systems. In Mexico, Hernández Salinas et al.⁽⁶⁾ highlighted the identity-reinforcing role of these practices in fostering cultural and community belonging.
- **Institutional Integration and Cultural Competence:** integrating TCM into formal healthcare systems requires culturally competent approaches. Kharroubi et al.⁽¹⁰⁾ propose a public health model centered on intercultural care, a framework adopted by Ban et al.⁽¹¹⁾ to develop institutional strategies legitimizing traditional medicine. Kengganpanich et al.⁽²⁶⁾ documented hybrid care practices in Thailand, in which older adults alternate between conventional medical systems and traditional healers.
- **Risks, Regulation, and Safety:** several studies have warned of the risks associated with the unregulated use of herbal medicines and supplements. Bressler⁽⁹⁾ underscored the need for pharmacological surveillance to mitigate potential adverse interactions, particularly in polypharmacy, emphasizing the importance of effective regulation to ensure TCM safety.

Collectively, these dimensions reflect the complexity of TCM use in older adults, encompassing individual perceptions, cultural factors, institutional challenges, and safety considerations, thus underscoring the need for comprehensive and culturally sensitive approaches.

To enhance clarity and synthesis, table 3 presents a summary of how the thematic areas identified in this review, namely therapeutic use, cultural factors, institutional integration, and regulation, manifest across different geographical regions. This mapping reveals key regional variations in how TCM is perceived, practiced, and institutionalized, highlighting the contextual factors that shape its adoption and impact.

Table 3. Mapping of Thematic Areas by Geographical Region				
Region	Therapeutic Use & Patient Perception	Cultural & Religious Factors	Institutional Integration & Cultural Competence	Risks & Regulation
Latin America	Highlighted perceived benefits. ⁽²⁴⁾	Identity reinforcement and ancestral knowledge. ⁽⁶⁾	Proposals for intercultural policies. ⁽¹¹⁾	Regulatory gaps are noted but less emphasized
Asia	Positive perception of tai chi and traditional therapies. ⁽²⁾	Embedded in daily practice and spiritual care. ⁽²³⁾	Coexistence with formal systems in Thailand. ⁽²⁶⁾	Frequent use raises concerns over regulation. ⁽²⁵⁾
Africa	Seen as default care in the absence of formal systems. ⁽⁴⁾	Strong symbolic role of traditional healers	Weak institutional presence; traditional systems operate informally	High reliance, minimal regulation
Europe & North America	Use motivated by dissatisfaction with biomedical care. ^(17,20)	Less emphasis on cultural identity, more on autonomy	Limited institutional integration; viewed as complementary option	Herb-drug interactions widely documented. ⁽⁹⁾

DISCUSSION

The results of this review confirm that the use of traditional and complementary medicine (TCM) in older adults with chronic diseases extends beyond its therapeutic role, embedding itself within a broader cultural, identity-based, and structural framework. Numerous studies converge on the idea that TCM practices, beyond their biomedical efficacy, are grounded in interpretive frameworks of well-being deeply connected to the beliefs, values, and life experiences of older adults.^(4,5) However, this cultural dimension of care has often been overlooked by dominant healthcare systems, which prioritize universalist and technocratic approaches.

To integrate the bibliometric and qualitative findings, the discussion is structured around the three conceptual clusters identified in the keyword co-occurrence analysis (figure 3), providing a data-driven framework for understanding the evolution of TCM research in managing chronic diseases among older adults.

Cluster 1 - Traditional Practices, Spirituality, and Herbal Medicine (Pre-2010)

This cluster captures the foundational phase of TCM research, where studies primarily documented ancestral

practices and community-based approaches to managing chronic illnesses. Research from Asia, Africa, and Latin America highlights the persistence of herbal remedies, spiritual healing, and cultural rituals as central components of care.^(7,9,17)

During this phase, TCM was understood less as a set of clinical interventions and more as part of a symbolic, identity-based framework, where health was conceptualized holistically. These practices were particularly prominent in contexts with limited biomedical infrastructure, where traditional healers played central roles in sustaining community well-being. However, studies such as Bressler⁽⁹⁾ warn about the risks of herb-drug interactions and emphasize the lack of regulatory frameworks, particularly in Latin American countries, highlighting early calls for policy development and clinical validation.

Cluster 2 - Complementary Therapies, Supplements, and Integrative Care (2010-2018)

The second cluster reflects a transitional phase in which TCM began intersecting more directly with biomedical systems. Research during this period increasingly explored evidence-based complementary therapies, including acupuncture, tai chi, meditation, yoga, and nutritional supplementation, assessing their effects on clinical and patient-reported outcomes.^(3,22)

Despite increasing institutional attention, significant barriers to integration persisted. Yen et al.⁽²¹⁾ and Halpin et al.⁽⁸⁾ found that many older adults concealed their TCM use from healthcare professionals due to inadequate intercultural training and mistrust in clinical environments. This situation is particularly relevant in marginalized contexts, where structural barriers and limited biomedical access drive reliance on TCM, as reported by Abdullah et al.⁽²³⁾

In countries such as Thailand and Malaysia, hybrid care models have emerged where traditional and biomedical systems coexist successfully,⁽²⁶⁾ while in other regions, professional training and regulation remain insufficient. This period marks the first significant attempt to bridge ancestral knowledge and biomedical practices, but it also highlights tensions between epistemological paradigms. While biomedicine emphasizes objectivity and measurable outcomes, TCM is grounded in experiential, narrative-based, and community-centered understandings of health.

Cluster 3 - Cultural Competence, Geriatric Care, and Diversity (2018-2025)

The most recent cluster signals a paradigm shift toward culturally competent, patient-centered care models. Research emphasizes aligning clinical practices with patients' beliefs, traditions, and knowledge systems to improve care outcomes for older adults with chronic diseases.^(6,10,11)

Ban et al.⁽¹¹⁾ propose intercultural health policies to formally integrate TCM into national health frameworks, improving equity and legitimacy. However, Ness et al.⁽¹⁾ and Willison et al.⁽¹⁸⁾ caution that such efforts risk superficial implementation if not grounded in active community participation.

This period also demonstrates marked geopolitical variability in TCM integration. In Asia, traditional practices are structurally embedded within national healthcare systems.^(3,26) In contrast, Europe and North America exhibit more individualized usage patterns, often tied to therapeutic autonomy or dissatisfaction with biomedical care.^(17,20) These findings highlight the need for context-sensitive approaches that account for social class, rurality, gender, and ethnicity when designing policies for equitable integration.

This integration of bibliometric results and qualitative synthesis provides a unique, data-driven framework for understanding how TCM evolves in response to clinical, cultural, and policy dimensions, positioning it as an essential component of comprehensive aging care.

This review highlights the need to redefine “therapeutic efficacy” through an intercultural and holistic perspective, recognizing traditional knowledge as a legitimate and valuable component of comprehensive care. TCM should not be relegated to a supplementary role within healthcare systems but valued as an active expression of agency, belonging, and symbolic resistance against models of care that marginalize epistemic diversity. By bridging bibliometric evidence with a qualitative understanding, this study provides a foundation for policy innovation, integrative practices, and equitable healthcare frameworks for aging populations.

Limitations

This study presents several limitations inherent to the design of bibliometric review and analysis. First, although efforts were made to include relevant and representative articles, the exclusive use of indexed sources may have excluded significant research developed in local contexts—particularly within Indigenous or rural communities—where traditional knowledge is often transmitted orally or through non-indexed reports. For instance, the limited representation of certain regions—such as sub-Saharan Africa beyond Ghana—appears to be a combination of both database limitations and actual research gaps in the indexed literature. While relevant studies may exist in grey literature or local repositories, their exclusion from major databases like Scopus and WoS restricted their inclusion in this review. This points to the need for future systematic reviews to adopt inclusive strategies that incorporate non-indexed but culturally valuable sources.

Furthermore, the methodological heterogeneity of the included studies—ranging from surveys to qualitative research—makes it difficult to draw direct comparisons regarding the effectiveness or usage patterns of traditional and complementary medicine (TCM). Lastly, although the geographic analysis is illustrative, it does not necessarily reflect the depth or demographic weight of these practices in each region; therefore, future approaches should combine quantitative analyses with context-specific case studies.

Practical implications

The findings of this study have important implications for public health systems, medical staff training, and the design of inclusive policies. First, the high prevalence and diversity of traditional and complementary medicine (TCM) use among older adults highlights the need to train healthcare professionals in cultural competence, intercultural communication, and the recognition of traditional knowledge. Second, the results suggest that healthcare institutions could move toward integrative care models, where traditional therapies are considered complementary within a framework of clinical safety and cultural respect. Finally, this study provides evidence for policymakers to design strategies that legitimize, regulate, and integrate traditional practices as part of the national health system, especially in communities that heavily rely on these resources.

However, the effective implementation of policies that integrate traditional and complementary medicine into national healthcare systems faces several barriers. Institutional inertia often slows the adoption of culturally inclusive frameworks, particularly in systems deeply rooted in biomedical logics and resistant to epistemic plurality. Additionally, the lack of intercultural training among healthcare professionals hinders the development of respectful and competent interactions with users of traditional practices. Other obstacles include regulatory fragmentation, insufficient funding for integrative initiatives, and weak coordination between conventional health institutions and community-based healers. These challenges must be acknowledged and strategically addressed to ensure that policy efforts translate into tangible improvements in geriatric care.

Future Research Areas

Based on the identified gaps, several lines of future research are proposed. First, it is recommended to conduct in-depth empirical studies analyzing the clinical, emotional, and social effects of traditional and complementary medicine (TCM) use among older adults from a longitudinal perspective. It would also be valuable to explore institutional barriers and healthcare professionals' perceptions regarding the integration of traditional knowledge, particularly in low- and middle-income countries. Another emerging area involves studying the impact of digitalization and social media on the dissemination of traditional therapies among older adults. Finally, there is an urgent need to develop ethical and methodological frameworks that actively incorporate the voices of user communities, respecting their modes of validation, transmission, and transformation of traditional knowledge.

Moreover, future research would benefit from interdisciplinary collaboration that brings together ethnographers, public health experts, and policymakers. Ethnographers can offer deep contextual insights into the symbolic and sociocultural dimensions of traditional practices, while policymakers can help align findings with feasible and culturally sensitive health strategies. This collaborative approach would enhance the relevance, applicability, and ethical grounding of interventions aiming to integrate TCM into formal healthcare systems.

CONCLUSIONS

This study analyzed the use, characteristics, risks, and opportunities of traditional and complementary medicine (TCM) among older adults with chronic diseases by integrating bibliometric patterns and qualitative synthesis. The findings demonstrate that TCM is not limited to its therapeutic function but forms part of broader cultural, identity-based, and institutional dynamics that shape healthcare for aging populations.

The synthesis reveals three overarching insights. First, TCM persists as a culturally embedded practice that supports autonomy, spirituality, and belonging among older adults. Second, its integration into healthcare systems faces structural barriers, including limited regulation, insufficient intercultural training, and fragmented policy frameworks. Finally, the diversity of TCM adoption across regions underscores the need for context-sensitive, equity-oriented strategies that respond to social, cultural, and institutional realities.

By connecting bibliometric and qualitative evidence, this review contributes a comprehensive, multidimensional understanding of TCM's evolving role in chronic disease management. These findings highlight the necessity of evidence-based policies, intercultural healthcare frameworks, and future research agendas that address regulatory challenges, improve clinical integration, and ensure equitable access to culturally aligned care for aging populations.

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