Review Article

Health economic evaluation studies in India's traditional system of medicine (Ayush): A scoping review

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Abstract

Health economic studies offer valuable insights for improving healthcare decision-making and optimizing resource use. India's traditional medical systems, known as Ayush, are globally recognized. To document health economic studies in Ayush, we conducted a scoping review to examine their characteristics. We used a set of keywords as finalized by field experts to search in PubMed, Scopus, Embase, and the Ayush research databases, and the reference lists of selected studies to retrieve the relevant studies until August 2023. Two independent reviewers used the Rayyan web tool to screen the titles, abstracts, and full texts of selected studies. We extracted the information and presented the descriptive data as numbers and proportions. We reviewed 49 studies for data extraction, primarily focusing on Homeopathy and Yoga, each with 19 studies, followed by Naturopathy (n = 5), Ayush/combined (n = 5), and Ayurveda (n = 1). About one-third of the studies were full economic evaluations (n = 17). The majority of full and partial economic evaluation studies were conducted in Yoga (n = 11) and Homeopathy (n = 16), respectively. Most studies covered musculoskeletal diseases (n = 13), and more than half of the diseases belong to noncommunicable diseases (n = 28). The majority of the research studies were published in Q1 journals (n = 18). Health economic evaluation studies in Ayush are limited, yet their utilization and market size are growing. To support resource allocation and decision-making, comprehensive economic evaluation studies on Siddha, Unani, and Ayurveda systems are essential. This scoping review highlights the need to address existing knowledge gaps in this area.

Keywords: Ayush, cost, cost-utility analysis, economic evaluation, health economics

Background

The World Health Organization (WHO) defines Traditional Medicine (TM) as "*sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness*".[1] Various types of TM are being practiced worldwide, such as Homeopathy, Traditional Chinese Medicine (TCM), Acupuncture, and Ayurveda.[2-4] Recent studies highlight that TM is widely practiced in many Asian, European, and African countries and integrated with health systems.[5] According to the WHO, TM is used in some way in 65%–80% of healthcare practices worldwide.[6] The WHO study also indicates that 170 of WHO's 194 member states currently use some form of TM, and it is widely practiced in primary care levels due to its

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low cost, cultural and religious preferences, and effectiveness. The Declaration of Astana also recognizes the importance of integrating TM knowledge and techniques into primary health care delivery.[7] Globally, the demand for TM has been increasing, and a recent report indicates that the global herbal medicine market was valued at $201.06 billion in 2022. It is projected to be $371.45 billion by 2030.[8]

India is known for its traditional systems of medicine and recognized the six medical systems called Ayush (Referred to as AYUSH, an acronym for Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa Rigpa, and Homoeopathy).[9] Even though the Homeopathy and Unani systems originated in Germany and Persia, respectively, both systems are recognized and widely practiced in India.[10,11] A study reports that 33% of people prefer the Ayush system of medicine for common ailments, and 18% prefer it for severe illnesses[12] in India. Ayush is recognized and practiced in many Asian, European, African, and American countries.[13] To improve and promote the Ayush system of medicine, the Government of India established the Global Centre for Traditional Medicine (GCTM) to strengthen evidence-based Ayush medicine.[14] The demand for and utilization of Ayush systems of medicine have been increasing globally in the last decades.[15] Due to wide recognition and acceptance, the market size of Ayush has grown by 17% from 2014 to 2020, reaching $18.1 billion.[16]

Globally, health economic evaluation studies are one of the approaches used to generate evidence and improve healthcare resource decision-making. Health economic evaluation studies provide information to decision-makers on how to efficiently use available resources to maximize health benefits and improve the population's health.[17-19] There are broadly two types of economic studies. Full economic evaluation studies compare the costs and outcomes of two or more treatment approaches. In contrast, partial economic evaluation studies either make no comparison or describe only the costs or the consequences of a treatment or approach. The awareness and acceptance of Ayush and budget allocation for Ayush medicine systems have increased globally. Policymakers, healthcare payers, and patients need this knowledge to make informed decisions, especially in resource-limited settings like India.

Health economic studies capture both the direct and indirect costs incurred by patients, as well as catastrophic health expenditures (CHEs) that can cause significant financial hardship. These costs are particularly important in primary care, where most patients seek initial treatment and rely on affordable, accessible services. Economic evidence helps family physicians make informed decisions, counsel patients effectively, and promote cost-efficient healthcare delivery. Although economic evaluation studies are important in healthcare resource allocation and delivery, there are a limited number of studies in Ayush systems of medicine.[20] The Ayush systems of medicine are based on a holistic, preventive, and wellness-oriented approach. In the long term, economic evaluation studies can play a crucial role in optimizing resource allocation, demonstrating cost-effectiveness, and informing policy decisions. This, in turn, can support the integration of Ayush into broader healthcare systems, leading to more effective service delivery and improved patient outcomes. In this context, a scoping review was conducted to map and characterize the health economic studies conducted in Ayush systems of medicine globally.

Methods

This scoping review followed the *Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for scoping reviews* (PRISMA-ScR) guidelines.[21] All relevant research studies published from inception until August 2023 were collected. Only studies published in English were included in this review.

Literature search

The keywords were selected and finalized based on an extensive preliminary search and consensus among authors with subject-matter expertise [Annexure]. We searched key biomedical and Ayush databases such as PubMed, Scopus, Embase, and the Ayush research portal[22] from the inception to August 2023. The Boolean operators such as AND, OR, and NOT were used to get more relevant articles in PubMed, Scopus, and Embase databases. Both published and gray literature were searched for this study from inception to August 2023. The Ayush Research Portal, which compiles evidence-based research data on Ayush systems globally, was utilized to identify relevant gray literature. The keyword "health economic studies" was entered into the portal's search function, and resulting records were exported to an Excel sheet for screening and data extraction. Additionally, reference lists of selected studies were screened to supplement the systematic search.

Eligibility criteria

The PCC (Population, Concept, and Context) framework was used to identify the studies. We used concept terms such as health economic studies, cost studies, and context terms such as Ayush and traditional medicines to get the relevant studies. Both concept and context terms, along with their combinations, were applied based on the indexing requirements of each database. The inclusion criteria comprised full and partial economic evaluation studies conducted within the Ayush systems of medicine. Exclusion criteria included theses, editorials, abstracts, conference proceedings, systematic reviews, and review articles. Studies involving non-Ayush traditional medicines, such as traditional Chinese medicine and general herbal remedies, were also excluded. No geographical restrictions were applied. Only studies published in English were considered. All types of economic evaluation studies were eligible for inclusion, such as cost-minimization analysis (CMA), cost-effectiveness analysis (CEA), cost-utility analysis (CUA), cost-benefit analysis (CBA), cost of illness (COI), cost analysis, and out-of-pocket expenditure studies (OOPE) reported in Ayush systems of medicine.

Selection of studies

The selected studies were uploaded in Rayyan software,[23] a web tool designed to help researchers work on systematic reviews, scoping reviews, and other knowledge synthesis projects. All identified studies were uploaded into Rayyan, where duplicate records were removed. The remaining studies were then screened based on titles and abstracts. Two independent reviewers (RS and AN), with expertise in AYUSH and public health, conducted the screening process. The same subject experts also did the full-text screening. Any disagreements were solved by consensus or by the decision of a third reviewer (SK).

Data extraction

A data extraction form was developed to collect information on journal details, country of publication, year of publication, AYUSH system of medicine studied, type of health economic evaluation, disease or condition investigated, sample size, participant characteristics, outcome measures used, and the study perspective. The included studies reported health economic evaluations following the Consolidated Health Economic Evaluation Reporting Standards (CHEERS) guidelines. Funding sources were extracted from each study. Data extraction was performed using Microsoft Excel, with involvement from subject matter experts.

Data analysis

The Epi-Info software (Version 7.2) was used for analysis. We analyzed the characteristics of studies and journals, types of Ayush systems of medicine, and the types of health economic evaluation studies and presented them as numbers and proportions. We analyzed the subjects of journals and their ranking using Scimago Journal and Country Rank (SJR).

Results

Search results and inclusion of the studies

A total of 17,213 articles were retrieved through the database search. After the removal of 5071 duplicates, 12,142 records remained for screening. Following title and abstract screening, 12,011 articles were excluded, and 131 were assessed for full-text review. Of these, 82 articles were excluded for the following reasons: study protocols or editorials (n = 8), review articles (n = 8), full-text not available (n = 7), absence of cost-related data (n = 12), not related to AYUSH systems (n = 29), focused on health insurance (n = 2), related to complementary and alternative medicine (CAM) systems from other

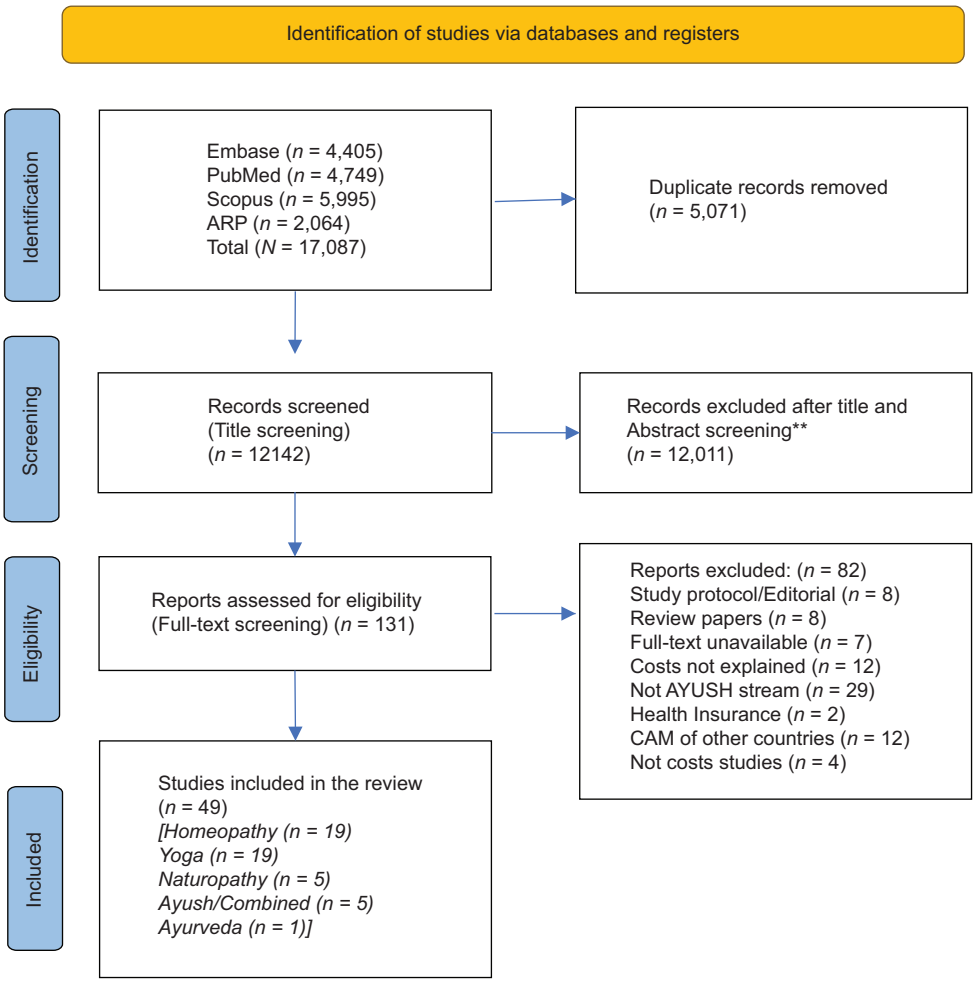

Figure 1: PRISMA flow diagram for selection of health economic studies in Ayush systems of medicine

countries (n = 12), and not cost-related studies (n = 4). Ultimately, 49 studies were included in the final scoping review [Figure 1].

Distribution by study characteristics

The majority of the studies were from Homeopathy and Yoga (n = 19) systems of medicine, followed by Naturopathy (n = 5), Ayush/combined (n = 5), and Ayurveda (n = 1). There were no studies in Siddha, Unani, and Sowa-rigpa systems. We observed that the first research study was published in 1992, and more than 50% of the publications were published after 2010. The majority of the studies were published between 2011 and 2020 (n = 24). The majority of the studies were from the United States of America (USA) (n = 12), followed by Germany (n = 10) and England (n = 7). In terms of continents, the majority of the studies were from Europe (51%), followed by North America (n = 15) and Asia (n = 9) [Figure 2]. The majority of the diseases were from musculoskeletal systems (n = 13), followed by respiratory systems (n = 4).

More than half of the diseases were from noncommunicable diseases (NCDs) (n = 28) and around two-thirds of the studies were primary studies, which collected data from the patients (n = 33). Around 80% of the studies were conducted on adults (n = 39), followed by children (n = 3). The selected studies were listed in 38 journals. The journal's subjects included medicine, traditional medicine, allergy, dermatology, and oncology. The majority of the journal subjects were medicine (n = 28). In terms of quality, the majority of the journals were from the Q1 category (n = 18). The journal's impact factor ranged from 0.15 to 26, and most of the journals had less than ten impact factors (n = 32). More than half of the studies received funds (n = 26). Among these, the majority were research agencies (n = 10), including the council, institutes, and foundations, and four were pharmaceutical companies [Table 1].

Profile of publications by type of systems

The majority of the publication was from the Yoga (n = 19) and Homeopathy (n = 19) systems of medicine. Most of the homeopathy papers were published before 2010, while most papers on Yoga systems were published after 2010 (n = 18). The country analysis indicated that most of the homeopathy studies were from European countries only, which includes Germany (n = 9), England (n = 4), France (n = 3), and Italy (n = 2). In contrast, half of the Yoga studies were from USA (n = 9), followed by England (n = 3) and Sweden (n = 2). Regarding the quality of the journals, most of the publications were from Q1 journals for both Homeopathy (n = 10) and Yoga (n = 11). The study highlighted that the majority of the NCD studies were from the Yoga system of medicine (n = 19) compared to the Homeopathy system (n = 5). The majority of the patient perspective studies were from Homeopathy (n = 5) and (n = 7). Around 60% of both systems studies received funds for the studies [Table 2].

Distribution of publication by nature and type of health economic evaluation

Among these studies, only eight mentioned the CHEERS checklist. Around one-third of the studies were full economic evaluations (n = 17). Among the full economic evaluation studies, the majority of the studies were the CEA studies (n = 13/16). The CEA studies mentioned QALY (n = 13) as an outcome measure in the research studies, and the remaining were cost-effectiveness studies (n = 4) [Figure 3]. Half of the partial economic evaluation studies were cost analyses (n = 16). Nearly one-third of the studies used Homeopathy as the intervention group (n = 15), and one-fourth used usual care as the comparator group (n = 12;). Regarding duration, more than 80% of the studies were completed within 1 year (n = 41). The majority of the studies were done on patients' perspectives (n = 9), followed by societal perspectives (n = 7) [Table 3].

The analysis indicates that the full economic evaluation studies were published after the year 2000 (0% Vs 100%). We also observed similar findings for partial economic evaluation studies (6% vs. 94%). Most of the partial economic evaluation studies were from European countries (56.2%). European and North American

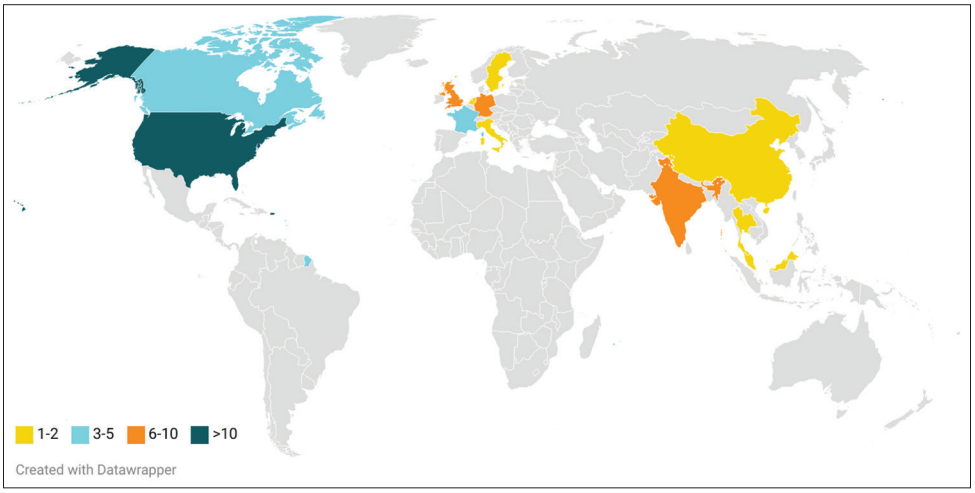

Figure 2: Distribution of number of publications on health economic studies by countries; Health economic studies in Ayush systems of medicine

Table 1: Characteristics of research publications (*n*=49) on health economic studies from India's Ayush Systems of Medicine

Characteristics		# (*n*=49)	%
System of medicine	Homeopathy	19	39
	Yoga	19	39
	Naturopathy	5	10
	Ayush/Combined	5	10
	Ayurveda	1	2
Body system	Musculo skeletal diseases	13	26
	Multiple conditions	7	14
	Cancer	4	8
	Respiratory system	4	8
	Nervous	3	6
Type of diseases	Noncommunicable diseases	28	57
	Multiple conditions	7	14
	Communicable diseases	6	12
Category of study population	Patients	33	67
	individuals	7	14
	Workers	3	6
	Physicians	2	4
	General practitioners	1	2
Type of study population	Adults	39	80
	Children	3	6
	Children and adults	2	4
Journal's speciality	Medicine	28	74
	Health Professions	3	8
	Multidisciplinary	1	3
	Economics	1	3
Journal rank	Q1	18	47
	Q2	11	29
	Q3	4	11
	Q4	1	3
Journal Impact factors	<1	3	8
	1-5	25	66
	6-10	4	11
	>10	2	5

Table 2: Characteristics of publication by type of Ayush systems of medicine, 2023

Characteristics	Homeopathy (*n*=19) # (%)	Yoga (*n*=19) # (%)	Total (*n*=38) # (%)
Publication year			
Up to 2010	13 (68)	1 (5)	14 (37)
After 2010	6 (32)	18 (95)	24 (63)
Type of EE studies			
Full	3 (16)	11 (58)	14 (37)
Partial	16 (84)	8 (42)	24 (63)
Countries			
Germany	9 (47)	0 (0)	9 (24)
USA	0 (0)	9 (47)	9 (24)
England	4 (21)	3 (18)	7 (18)
Others	6 (32)	7 (37)	13 (34)
Journal rank			
Q1	10 (53)	11 (58)	21 (55)
Q2	8 (42)	5 (26)	13 (34)
Q3	0 (0)	2 (11)	2 (5)
Q4	0 (0)	1 (5)	1 (3)
Diseases type			
Communicable diseases	5 (26)	0 (0)	5 (5)
NCDs	5 (26)	18 (94)	23 (60)
Multiple conditions	6 (32)	0 (0)	6 (8)
Perspectives			
Societal perspective	3 (16)	3 (16)	6 (8)
Healthcare perspective	2 (11)	1 (5)	3 (7)
Patient perspective	5 (26)	1 (5)	6 (15)
Combined/Others	7 (37)	7 (37)	14 (37)
CHEERS mentioned	2 (11)	5 (26)	7 (18)
Funding support specified	11 (58)	12 (63)	23 (61)

countries contributed equally (47% Vs. 41%) for full economic evaluation studies. We also observed that nearly half of the journals published full and partial economic studies in the Q1 category (47% Vs. 50%), respectively. Regarding the system of medicine, most of the full economic evaluation studies were from the Yoga system of medicine (65%), and most of the partial economic evaluation studies were from the Homeopathy system of medicine (50%). The majority of the included studies focused on NCDs in both full and partial economic evaluations, accounting for approximately 70% and 50%, respectively. In contrast, a limited number of economic evaluation studies addressed communicable diseases. The perspectives adopted in the health economic evaluations were also analyzed and are summarized [Table 3].

Discussion

In light of the limited documentation and the growing importance of health economic evaluation within the Ayush systems of medicine, a scoping review was conducted to identify and categorize existing studies in this field. A total of 49 economic evaluation studies related to Ayush systems were identified and mapped. To the best of current knowledge, this represents the first scoping review focused specifically on economic evaluation studies within the Indian traditional systems of medicine. The results indicated that the majority of the studies were done after 2010 except for Homeopathy studies. The majority of the Yoga and Homeopathy studies were from USA and Europe, respectively. One-third of the studies were full economic evaluation studies. The majority of the studies were published in high-quality journals. The majority of the studies were done on NCDs, including musculoskeletal diseases and cancers.

In terms of the time period, most of the Ayush-based health economic evaluation studies started appearing in the year 2000 and have been on the rise since then, which suggests that the importance of economic evaluation studies is increasing in Ayush. Similar results were found in a review study highlighting the increasing number of health economic evaluation publications after 2000.[24] However, most of the Homeopathy system studies were published before 2010 and gradually declined after 2010. Homeopathy is recognized and widely practiced globally, especially in Europe and Asia. However, reports from

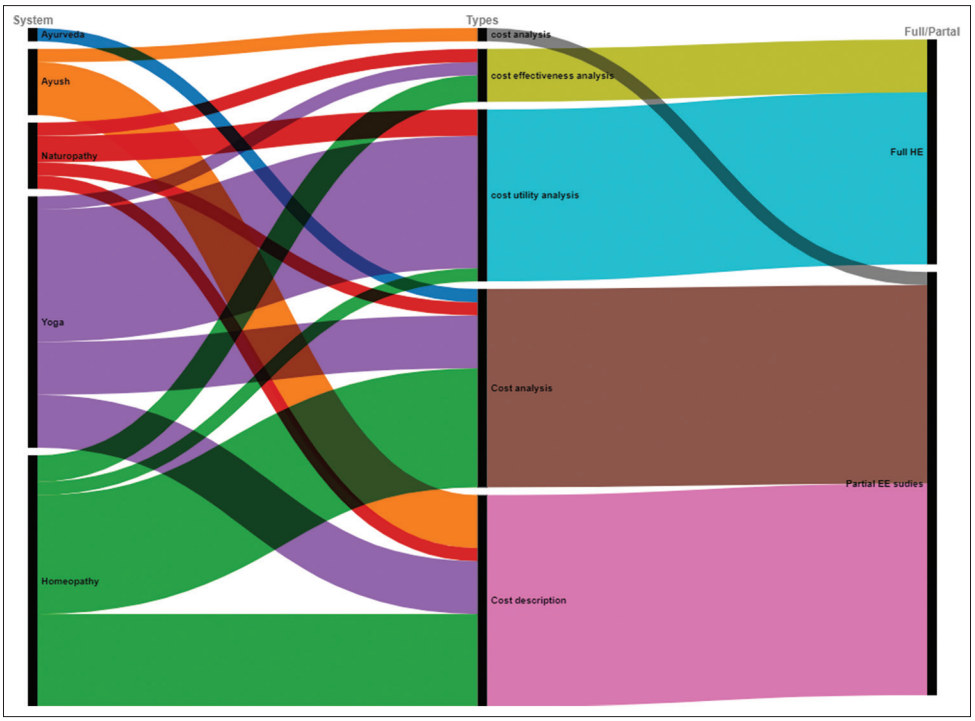

Figure 3: Distribution of health economic studies by Ayush systems of medicine, 2023

the UK (25) and USA (26) indicate a lack of scientific evidence for homeopathic interventions. Due to a lack of evidence, the UK and European countries reduced the funding support for Homeopathy.[25] These reasons could be attributed to the gradual decline in the number of studies since 2010. In contrast, we observed a positive trend in studies on the yoga system of medicine. Yoga has become popular in many developed countries such as USA, Asia, and Europe.[26] According to the National Health Services (NHS) and National Institutes of Health (NIH), Yoga is considered a safe and effective intervention for increasing strength, flexibility, and balance.[27] The United Nations adopted the International Day of Yoga (IDY) in 2014, which is celebrated globally on June 21st to acknowledge the practice of Yoga. Yoga is widely practiced in many countries and has international recognition, which could be one of the reasons for the increase in research publications globally.

In terms of types of health economic evaluation studies, the majority of the studies were cost-utility studies in full-economic evaluation studies. More full and partial economic evaluation studies were conducted in Yoga and Homeopathy, respectively. Nearly one-third of the studies used Homeopathy as an intervention group. Most of the studies were done on patients' perspectives in partial economic evaluation studies and societal in full economic evaluation studies. It was also observed that the majority of full economic evaluation studies received funding from government sources, whereas partial economic evaluation studies were primarily supported by private institutions. Additionally, more than half of the health economic evaluation studies included in this review were published in journals categorized within the top quartile. Our findings indicated that the majority were from quality journals. Similar results were found from a scoping review of health economic evaluation studies, which indicates that nearly half of the journals belong to Q1 journals.[28]

In the present review, we observed that the majority of the diseases belong to musculoskeletal diseases. Due to epidemiological transition, countries are focusing on major NCDs such as diabetes, hypertension, and cardiovascular diseases, and some of the communicable diseases. The global burden of diseases report identifies that heart disease, stroke, and chronic obstructive pulmonary disease (COPD) are the top diseases that affect a major section of the population globally.[29] The research priority is based on the top NCDs, which cause more than 80% of the mortality worldwide. However, the same trend is not happening in Ayush systems of medicine as it is happening in modern systems of medicine. The review identified a higher focus on musculoskeletal diseases, mental disorders, and cancers, with fewer studies addressing high-burden NCDs and communicable diseases. Homeopathy studies predominantly concentrated on respiratory diseases, followed by musculoskeletal and integumentary system disorders. In contrast, Yoga-related research primarily targeted musculoskeletal diseases, cancer, and nervous system conditions. These findings highlight the need for increased research on high-burden diseases and those of significant public health importance.

Strengths and limitations

As stated earlier, our scoping review represents the first of its kind in the traditional Indian system of medicine (Ayush) done to map and characterize health economic evaluation studies.

Table 3: Characteristics of publications by type of health economic studies in Ayush systems of medicine, 2023

	Full HE (*n*=17) # (%)	Partial HE (*n*=32) # (%)	Total (*n*=49) # (%)
Characteristics			
Cost analysis	NA	16 (50)	16 (33)
Cost description studies	NA	16 (50)	16 (33)
Cost-Utility Analysis	13 (76)	NA	13 (27)
Cost Effectiveness Analysis	4 (24)	NA	4 (8)
Publication year			
Up to 2010	3 (18)	14 (44)	17 (35)
After 2010	14 (82)	18 (56)	32 (65)
Continent			
European	7 (41)	18 (56)	25 (51)
North America	8 (47)	7 (22)	15 (31)
Others	2 (12)	7 (22)	9 (18)
Journal rank			
Q1	8 (47)	16 (50)	24 (49)
Q2	6 (35)	9 (28)	15 (31)
Q3	3 (18)	2 (6)	5 (10)
Q4	0 (0)	1 (3)	1 (2)
System of medicine			
Ayurveda	0 (0)	1 (3)	1 (2)
Ayush/Combined	0 (0)	5 (16)	5 (10)
Homeopathy	3 (18)	16 (50)	19 (39)
Naturopathy	3 (18)	2 (6)	5 (10)
Yoga	11 (64)	8 (25)	19 (39)
Diseases type (CDs/NCDs)			
Communicable diseases	2 (12)	4 (12)	6 (12)
NCDs	12 (70)	16 (50)	28 (57)
Multiple conditions	2 (12)	5 (16)	7 (14)
Intervention types			
Homeopathy	3 (18)	12 (37)	15 (31)
Yoga	10 (59)	5 (16)	15 (31)
Naturopathy	3 (18)	0 (0)	3 (6)
Others	1 (6)	4 (12)	5 (10)
NA	0 (0.0)	11 (34)	11 (22)
Comparator types			
Usual care	9 (53)	3 (9)	12 (24)
Modern medicine drugs/ therapy/conventional therapy	1 (6)	11 (34)	12 (24)
Yoga	0 (0.0)	1 (3)	1 (2)
Other	5 (29)	4 (12)	9 (18)
NA	2 (12)	13 (41)	15 (31)
Duration of studies			
< 1 year	6 (35)	20 (62)	26 (53)
1-2 Years	11 (65)	9 (28)	20 (41)
> 2 years	0 (0.0)	3 (9)	3 (6)
Perspectives			
Societal perspective	5 (29)	2 (6)	7 (14)
Healthcare perspective	1 (6)	3 (9)	4 (8)
Patient perspective		9 (28)	9 (18)
CHEERS mentioned	7 (41)	1 (3)	8 (16)
Funding support specified	11 (67)	15 (47)	26 (53)

Efforts were made to maximize the coverage of relevant studies by including all articles published in English, without any restrictions on publication date or geographical location, in order to capture a comprehensive range of economic evaluations. However, this review has certain limitations. Studies published in languages other than English were excluded, which may have led to an underestimation of the number of publications related to Ayush systems and potential omission of some economic evaluations. Additionally, as a scoping review aiming to map the overall evidence landscape, individual studies were not critically appraised for methodological quality.

Conclusion

This scoping review provides the landscape of the health economic evaluation studies conducted in Ayush systems of medicine. A maximum number of studies appeared after 2000, mostly in good-quality journals. Except for Yoga and Homeopathy, the other Ayush systems are yet to be published in this area. Most of the full economic evaluation studies were on Yoga and restricted to NCDs. Hence, more health economic evaluation studies in the Ayush system of medicine are suggested, which will help decision-makers use available resources efficiently to maximize health benefits and suggest that the type and scope of health economic evaluation studies require more depth and range. We did not find many studies on the cost-effectiveness of Ayush drugs, therapies, and procedures. The studies on communicable diseases were limited and suggested conducting more on major communicable diseases.

Ethical approval

Not required.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Annexure: Search strategy - PubMed

Database- PubMed	Key words	No of articles
1# Ayush	"Traditional medicine*" OR "Complementary medicine*" OR "Alternative medicine*" OR "Integrative medicine" OR "Herbal medicine*" OR "complementary and alternative medicine" OR "Traditional Indian Medicine*" OR "indigenous medicine" OR "complementary treatments" OR Ayush OR Ayurved* OR Yoga OR meditation OR Pranayama OR Asana* OR Unani OR Siddha OR "Sowa Rigpa" OR homeopat* OR Naturopat* OR "Traditional herbal medicine" OR "non-conventional medicine"	141,507
2# Health Economics	"health economics" OR "health care cost" OR "healthcare cost" OR "economic burden" OR costs OR cost OR "cost analyses" OR "cost benefit" OR "cost effectiveness" OR "Cost Utility" OR "cost minimization" OR "out of pocket expenditure" OR "cost description" OR "Healthcare expenditure*" OR "Health expenditure*" OR "cost of illness" OR "budget impact analysis" OR "economic evaluation" OR "economic outcomes" OR "incremental costs" OR Burden OR "cost saving" OR "cost savings" OR "economic appraisal" OR "cost consequence" OR "quality adjusted life year*" OR "disability-adjusted life year*" OR QALY OR DALY OR "Markov model" OR "decision tree" OR" medical cost" OR "medical costs" OR "disease related cost" OR "disease related costs" OR "direct cost" OR "direct costs" OR "indirect cost" OR "indirect costs" OR "cost comparison" OR "pharmacy economic" OR "economic cost" OR pharmacoeconomic* OR "financial burden" OR "Cost impact" OR "Medication cost" OR "patient cost" OR "economic analysis" OR "Out of pocket expenses" OR "Economic impact"	1,509,926
#3 (#1 AND #2)		7,344
#4 (Filter- English and Humans)		4,747