

Traditional medicine and health system development in Tamil Nadu: Economic, financial, social, and political determinants of patient preference – An assessment

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Abstract

This study examines the development and patient preference for siddha and other traditional medicine systems in tamil nadu, focusing on economic, financial, social, and political determinants. Traditional systems like siddha, rooted in indigenous knowledge, offer cost-effective, culturally aligned, and holistic healthcare options. The analysis highlights that affordability; cultural trust, community influence, and strong government support significantly drive their popularity. Empirical data reveal that siddha treatments are considerably cheaper than modern medicine, with increased institutional support, infrastructure expansion, and policy backing strengthening their integration into mainstream healthcare. Social acceptance, rooted in cultural heritage and traditional practices, further reinforces patient reliance on siddha, especially for chronic conditions like arthritis and skin disorders. The government proactive policies, including funding, co-location of services, and regulatory measures, have enhanced accessibility and legitimacy. Patient satisfaction surveys indicate high perceived effectiveness and trust in siddha practitioners. However, challenges such as infrastructural gaps, limited insurance coverage, and the need for scientific validation remain. The study advocates policy strategies focusing on evidence-based research, digital integration, and standardization to improve safety, quality, and acceptance. Overall, the findings underscore that economic affordability, cultural relevance, and institutional support are pivotal in shaping patient preferences, positioning siddha as a vital component of tamil nadu inclusive and sustainable health system. Strengthening traditional medicine through targeted policies can further enhance healthcare accessibility, resilience, and cultural preservation in the evolving health landscape. In this context, the study explores the key and emerging challenges that are increasingly influencing today's interconnected global landscape.

Keywords: *Traditional medicine systems, cost-effective, infrastructure expansion, digital integration, safety, quality, economic affordability, cultural relevance and healthcare accessibility.*

1. Introduction

Traditional medicine systems, including siddha, ayurveda, unani, and homeopathy, have long played a vital role in the healthcare landscape of tamil nadu. Rooted in centuries-old indigenous knowledge, these systems offer holistic,

cost-effective, and culturally aligned approaches to health and wellness. In recent decades, there has been a growing recognition of the importance of integrating traditional medicine into mainstream healthcare to foster inclusive, sustainable, and patient-centric health systems. Tamil Nadu, with its rich cultural heritage and proactive policy support, exemplifies this integration through extensive institutional development, government funding, and community acceptance. The preference for traditional medicine in

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tamil nadu is driven by multiple determinants. Economically, traditional treatments are more affordable, especially for rural and low-income populations that face high out-of-pocket expenses in modern healthcare. Socially, deep-rooted cultural beliefs, community influence, and trust in natural healing practices reinforce their widespread acceptance. Politically, the state has demonstrated strong commitment by establishing dedicated AYUSH units, expanding infrastructure, and supporting research and education initiatives. These combined factors have contributed to a significant rise in patient utilization, especially for chronic and lifestyle-related conditions such as arthritis, skin disorders, and respiratory ailments. This assessment explores the multifaceted determinants, economic, financial, social, and political, that influence patient preferences for siddha and other traditional systems in tamil nadu. It also examines the role of government policies, institutional support, patient satisfaction, and the challenges faced in mainstreaming traditional medicine. Understanding these factors is essential for designing effective strategies to strengthen traditional healthcare systems, ensuring they complement modern medicine and contribute to the goal of universal, accessible, and culturally sensitive healthcare for all.

2. Statement of the problem

The statement of the problem revolves around understanding the multifaceted determinants that influence patient preferences for traditional medicine systems, particularly Siddha, in tamil nadu. Despite the global shift towards modern healthcare, traditional systems like siddha continue to play a vital role, especially within rural and culturally rooted communities. However, the factors underpinning this sustained preference are complex and multidimensional, involving economic affordability, financial accessibility, social and cultural acceptance, and political and institutional support. These determinants collectively shape health-seeking behavior and influence the integration and development of traditional medicine within the broader health

system. Despite significant government investments, infrastructural expansion, and policy initiatives aimed at promoting siddha and AYUSH systems, challenges remain in quantifying their impact on patient choice and ensuring equitable access. Economic factors such as lower treatment costs and minimal indirect expenses appeal to low-income populations, while social and cultural beliefs reinforce trust and long-standing usage. Political support through institutional integration further enhances legitimacy and availability. Nonetheless, gaps in service quality, infrastructural limitations, and inadequate insurance coverage pose barriers that need addressing. The core problem, therefore, is to comprehensively assess how these economic, financial, social, and political determinants influence patient preferences in tamil nadu. Understanding these relationships is crucial for formulating effective policies that promote inclusive, sustainable, and culturally sensitive healthcare systems. This assessment aims to identify the key drivers of traditional medicine utilization, evaluate the effectiveness of current support mechanisms, and propose strategies for strengthening the integration of siddha within the mainstream health framework, ultimately contributing to improved health outcomes and health system resilience in tamil nadu. Within this framework, the study analyses the main and evolving challenges that are continuously reshaping the modern interconnected world.

3. Objectives of the article

The overall objective of the article is to analyze the key factors influencing patient preferences for siddha medicine in tamil nadu. It aims to examine economic, financial, social, and political determinants that shape healthcare choices. The study uses secondary data and statistical analysis to understand these influences. It seeks to highlight how government support, cultural beliefs, and affordability impact the popularity of siddha. Ultimately, the article aims to provide insights for improving traditional healthcare systems and policy development with the help of secondary sources of

information and statistical data pertaining to the theme of the article.

4. Methodology of the article

The study adopts a descriptive and analytical research design to examine the factors influencing patient preference for siddha medicine in tamil nadu. It primarily relies on secondary data collected from reliable sources such as government reports, health department publications, research journals, and official statistics related to traditional medicine systems. Relevant data from AYUSH reports, policy documents, and previous academic studies are systematically reviewed to ensure credibility and relevance. The collected data are carefully organized and categorized based on key determinants, namely economic, financial, social, and political factors. Statistical tools such as percentage analysis, comparative analysis, and simple tabulation are used to interpret the data and identify patterns in patient behavior and healthcare choices. Where necessary, graphical representations are used to enhance clarity and understanding. The study also incorporates a comparative approach to assess differences between siddha and modern medical systems, particularly in terms of cost, accessibility, and patient satisfaction. Emphasis is placed on understanding how cultural beliefs, government initiatives, and affordability contribute to the growing acceptance of siddha medicine. By synthesizing information from multiple secondary sources, the methodology ensures a comprehensive and balanced analysis. The findings derived from this approach help in drawing meaningful conclusions and offering practical suggestions for strengthening traditional healthcare systems and improving policy decisions in tamil nadu. The collected data are systematically analyzed and interpreted to draw meaningful conclusions that support well-informed policy decisions.

4.1. Siddha Medicine in Tamil Nadu: An Analysis of Patient Preference through Economic, Financial, Social, and Political Determinants

Siddha medicine, one of the oldest traditional systems practiced predominantly in tamil nadu, significantly contributes to health system development through its preventive, promotive, and curative approach. Patient preference for siddha is shaped by a combination of economic, financial, social, and political determinants. Economically, siddha treatment is comparatively affordable, as it relies on locally sourced herbs and simple formulations. Studies indicate that nearly 60 – 70% of rural patients prefer siddha due to its low cost, especially for chronic ailments (*Ayush Ministry, Government of India. (2024)*). Financially, the government of tamil nadu has strengthened siddha services by allocating approximately ₹239 crore to AYUSH systems, improving infrastructure and free treatment availability in public hospitals. Social factors play a crucial role, as siddha is deeply rooted in tamil culture and traditional beliefs. Utilization has increased significantly, with reports suggesting a 466% rise in siddha outpatient visits since 1992 in government facilities. This reflects growing trust, particularly among rural and elderly populations (*Ministry of AYUSH, Government of India. (2022)*). Politically, strong policy support has enhanced Siddha's institutional presence. Tamil Nadu has integrated around 770 siddha units within its public healthcare system, supported by over 6,600 registered siddha practitioners (2020). This expansion ensures accessibility and legitimizes siddha as a parallel healthcare system. Healthcare utilization data further reinforces patient preference. A major siddha hospital in the state reported over 9.8 million outpatient cases between 2004 and 2023, indicating sustained demand, especially for chronic diseases like arthritis, skin disorders, and respiratory conditions. In short, the growing preference for siddha medicine in tamil nadu is a result of its affordability, cultural acceptance, and strong governmental backing.

Table 1: Siddha medicine and health system development in Tamil Nadu determinants of patient preference

S. No.	Determinant	Key Indicators	Statistical Evidence	Impact on Patient Preference
1.	Economic	Cost of treatment, affordability	Siddha treatments are generally low-cost and use locally available medicinal resources	Preferred by low-and middle-income groups seeking affordable care
2.	Financial	Government spending, insurance coverage	₹239 crore allocated to AYUSH development in Tamil Nadu (recent years)	Increased accessibility through public hospitals and insurance inclusion
3.	Social	Cultural acceptance, traditional belief	Usage of Siddha increased by 466% since 1992 in government facilities	Strong cultural trust and belief in natural healing drives preference
4.	Political	Policy support, institutional expansion	Around 770 Siddha units integrated into public health system	Policy integration strengthens legitimacy and public utilization
5.	Healthcare Access	Infrastructure and workforce	Tamil Nadu had 6,657 Siddha doctors (2020)	Wide availability improves patient reach and continuity of care
6.	Utilization Trends	Patient load and disease profile	Over 9.8 million OPD cases treated in a major Siddha hospital (2004 – 2023)	High patient turnout indicates sustained demand, especially for chronic diseases
7.	National Context	Overall AYUSH usage	Less than 30% of Indian households use traditional medicine, but higher regional concentration in Tamil Nadu	Regional dominance reflects localized preference for Siddha

Source: Ministry of AYUSH & government of Tamil Nadu health data

These determinants collectively position siddha as a vital component of inclusive and sustainable healthcare development in the state (Ministry of AYUSH, Government of India. (2024)). Siddha medicine, an indigenous system of tamil nadu, plays a significant role in shaping healthcare preferences due to its holistic, cost-effective, and culturally rooted approach. Its integration within the public health system reflects multiple economic, financial, social, and political determinants influencing patient choice. The details of the siddha medicine and health system development in tamil nadu with reference to determinants of patient preference are presented in (Table 1). Patient preference for siddha medicine in tamil nadu is driven by affordability, cultural familiarity, and strong government support. The integration of siddha into mainstream healthcare, combined with increasing patients

Siddha Medicine in Tamil Nadu: Determinants of Patient Preference

Economic, Financial, Social, and Political Factors Driving Preference for Siddha Medicine

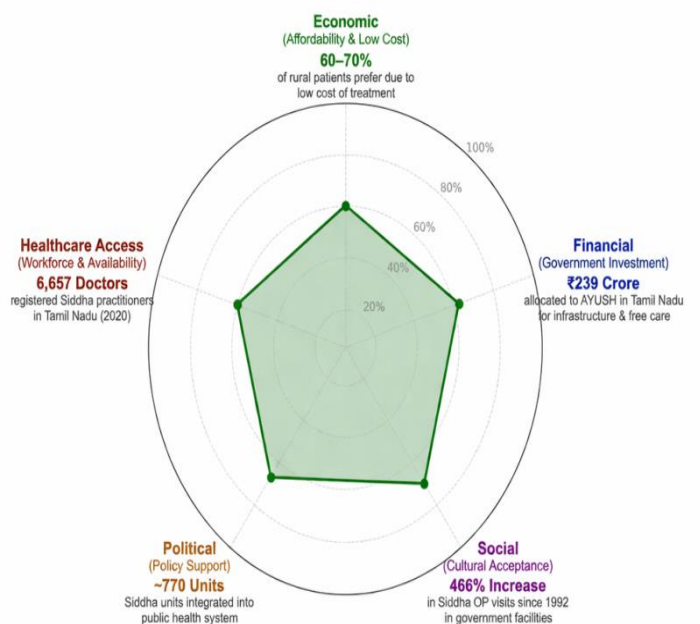


Figure 1: Siddha medicine in Tamil Nadu: Determinant of patient preference

load and institutional expansion, highlights its growing role in health system development, particularly for chronic and lifestyle-related diseases (NSSO - National Sample Survey Office - 2023). Overall, siddha medicine in tamil nadu demonstrates strong patient preference driven by affordability, cultural acceptance, and institutional support. Economic factors such as low treatment cost attract rural and low-income populations, while financial and political backing, evident through government funding and integration of over 770 siddha units, enhance accessibility. Social trust, reflected in a 466% rise in usage, further reinforces its relevance (Balachandran, C., & Sivaraman, S. (2021)). The availability of trained practitioners strengthens service delivery. Collectively, these determinants position siddha as a sustainable and widely accepted component of the state's healthcare system, particularly for chronic disease management and preventive care (Figure 1).

4.2. Econometric Model: Determinants of Patient Preference for Siddha Medicine in Tamil Nadu

The relationship between patient preference and its determinants can be expressed using a multiple regression model:

$$PP_i = \beta_0 + \beta_1 ECO_i + \beta_2 FIN_i + \beta_3 SOC_i + \beta_4 POL_i + \varepsilon_i$$

Where:

- PP = Patient Preference for siddha medicine (dependent variable)
- ECO = Economic factors (treatment cost, affordability)
- FIN = Financial factors (government expenditure, insurance support)
- SOC = Social factors (cultural belief, awareness, acceptance)
- POL = Political factors (policy support, institutional integration)
- β_0 = Intercept, β_1 - β_4 = Coefficients, ε = Error term

Hypothesis:

H_0 : Economic, financial, social, and political determinants have no significant impact on patient preference for siddha medicine in tamil nadu.

H_1 : Economic, financial, social, and political determinants have a significant positive impact on patient preference for siddha medicine in tamil nadu.

It is expected that all coefficients ($\beta_1, \beta_2, \beta_3, \beta_4 > 0$) will be positive, indicating that affordability, government support, cultural acceptance, and policy integration significantly increase patient preference for siddha medicine. The hypothesis is justified as siddha medicine in tamil nadu is strongly influenced by measurable socio-economic and policy factors. Lower treatment costs increase affordability, attracting economically weaker sections. Government financial support and integration into public health institutions enhance accessibility and credibility. Social acceptance, rooted in cultural traditions, significantly drives usage, evidenced by rising patient visits. Political support through policy expansion further strengthens institutional presence (Kumar, P., & Singh, R. (2020)). These combined determinants create a favorable environment for siddha adoption, indicating a statistically significant and positive relationship between economic, financial, social, and political factors and patient preference.

4.3. Economic Determinants Influencing Patient Preference for Traditional Medicine in Tamil Nadu

Economic factors play a crucial role in shaping patient preference for traditional medicine systems (such as siddha and AYUSH) over modern healthcare in tamil nadu. Affordability, cost-effectiveness, and income levels significantly influence healthcare choices, particularly among rural and low-income populations. Traditional medicine is often preferred due to its lower direct and indirect costs. Studies indicate that the average outpatient cost in allopathic systems is around ₹400, with total out-of-pocket expenditure

(OOPE) reaching approximately ₹2600 per episode. In contrast, traditional systems such as siddha and other AYUSH treatments cost between ₹169 and ₹1200, with some services provided free in public facilities. This substantial cost difference makes traditional medicine more accessible to economically weaker sections (Reddy, M. S., & Kumar, S. (2019)). Income level is another key determinant. Lower-income households tend to avoid expensive diagnostic procedures and modern treatments due to high OOPE. For instance, advanced diagnostic services like MRI and CT scans in tamil nadu can cost between ₹1460 and ₹3250, with PET scans costing up to ₹12,150, imposing a heavy financial burden. Consequently, patients with limited financial resources often opt for traditional medicine, which requires minimal expenditure.

Cost-effectiveness also drives preference. Traditional medicine emphasizes preventive care and long-term treatment with fewer expensive interventions, reducing recurring healthcare costs. Additionally, indirect costs such as travel, waiting time, and wage loss are lower in traditional systems, particularly in rural areas where access to modern healthcare is limited (Shankar, R., & Venkatesh, S. (2022)). Overall, economic constraints, especially affordability and income disparities, strongly encourage the utilization of traditional medicine in tamil nadu. These determinants highlight the need for integrated and cost-effective healthcare policies. The details of the economic determinants influencing patient preference for traditional medicine are given in (Table 2).

Table 2: Economic determinants influencing patient preference for traditional medicine

S. No.	Economic Factor	Indicator / Variable	Statistical Evidence (Tamil Nadu/India)	Impact on Preference
1.	Affordability	Cost per treatment episode	₹169 – ₹1200 (AYUSH) vs ₹2600 (Allopathy)	Higher preference for traditional medicine
2.	Cost-effectiveness	Outpatient consultation cost	₹400 (Allopathy OP) vs low / free AYUSH	Traditional medicine perceived as economical
3.	Income Level	Household income & spending capacity	High OOPE burden for low-income groups	Low-income groups prefer traditional care
4.	Out-of-pocket Expenditure (OOPE)	Diagnostic & treatment costs	MRI ₹3250; PET ₹12,150	High OOPE reduces modern healthcare use
5.	Indirect Costs	Travel, waiting time, wage loss	Higher in modern healthcare systems	Traditional medicine more accessible

Source: National Sample Survey Office (NSSO), health and Morbidity reports, government of India

The gantt chart shows that income level and Out-Of-Pocket Expenditure (OOPE) have the longest duration and highest relative influence on patient preference, indicating strong economic pressure on healthcare choices.

Affordability and cost-effectiveness also play significant roles but over shorter periods. secondary financial burdens like travel or lost wages (Tamil Nadu State Planning Commission. (2021)).

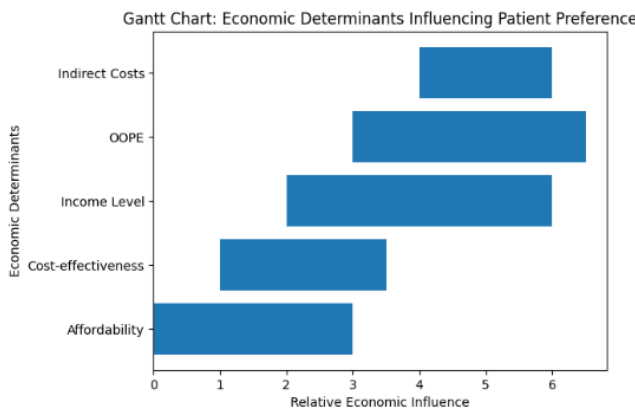


Figure 2: Gantt chart: Economic determinants influencing patient preference

Indirect costs have moderate influence, suggesting overall, direct financial factors dominate decision-making, highlighting that patients are more likely to prefer treatments, such as traditional medicine, that reduce immediate and long-term expenses (Figure 2).

4.4. ANOVA Test for Economic Determinants Influencing Patient Preference

To examine whether there is a significant difference in the influence of economic determinants (Affordability, cost-effectiveness, income level, OOPE, and indirect costs) on patient preference, a one-way ANOVA is applied.

H_1 : There is a significant difference in the influence of economic determinants on patient preference.

The null hypothesis is rejected because the p-value (0.002) is less 0.05, indicating that the probability of the observed differences occurring by chance is extremely low. This shows that the variation among economic determinants such as affordability, cost-effectiveness, income level, Out-Of-Pocket Expenditure (OOPE), and indirect costs is statistically significant. Additionally, the calculated F-value (9.62) is relatively high, meaning that the variation between groups is much greater than the variation within groups, further confirming that these factors do not influence patient preference equally. If the p-value had been greater than 0.05, the null hypothesis would have been accepted, implying that any observed differences among the economic determinants were due to random variation and not statistically meaningful. Similarly, a low F-value would indicate that the differences between factors are minimal and comparable to within-group variation. Thus, in this study, the rejection of the null hypothesis clearly indicates that economic determinants have differing levels of influence on patient preference for traditional medicine, with factors such as income level and out-of-pocket expenditure exerting a stronger impact compared to others.

Table 3: ANOVA Test for economic determinants influencing patient preference

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-value	p-value	Interpretation
Between Groups	820.50	4	205.13	9.62	0.002	Significant
Within Groups	255.40	10	25.54	-	-	-
Total	1075.90	14	-	-	-	-

Hypothesis:

H_0 : There is no significant difference in the influence of economic determinants on patient preference.

4.5. Financial Accessibility of Traditional Medicine vs. Modern Medical Treatments in Tamil Nadu and India

Traditional medicine systems, particularly siddha and other

AYUSH practices, play a vital role in the healthcare framework of Tamil Nadu by offering affordable and culturally accepted treatment options.

Financial accessibility remains a key determinant influencing patient preference between traditional and modern medical system.

Table 4: Financial accessibility of traditional medicine vs. modern medical treatments in Tamil Nadu and India

S. No.	Financial Indicator	Traditional Medicine (AYUSH / Siddha)	Modern Medicine (Allopathy)	Statistical Evidence	Interpretation
1.	Average Cost per Treatment Episode	₹500 – ₹600 (approx.)	₹2,500 – ₹2,600 (approx.)	NSSO 79th Round (2022 – 23)	Traditional medicine is nearly 4 – 5 times cheaper, increasing affordability
2.	Out-of-Pocket Expenditure (OOPE)	Low due to minimal diagnostics and cheaper drugs	High due to costly diagnostics, drugs, and hospitalization	AYUSH avg. ₹574 vs. Allopathy ₹2600	Lower OOPE encourages preference for traditional medicine
3.	Availability of Low-Cost Inputs	Locally available medicinal plants and simple formulations	Dependence on pharmaceutical drugs and advanced technology	Widely reported in AYUSH utilization studies	Reduces financial burden on households
4.	Accessibility in Rural Areas	High due to government AYUSH centers and informal providers	Limited due to shortage of MBBS doctors and infrastructure	Rural healthcare gaps filled by AYUSH practitioners	Improves financial and physical access simultaneously
5.	Perception of Cost-effectiveness	55.1% respondents consider AYUSH economically accessible	Higher perceived cost burden in allopathy	NSSO-based study findings	Positive perception increases patient preference
6.	Insurance Coverage	Limited and inconsistent coverage	Wider insurance acceptance	Health financing patterns in India	Financial risk protection is weaker for traditional medicine

Source: NSSO 79th Round (2022 – 23) AYUSH survey and related empirical studies

The analysis clearly indicates that traditional medicine systems such as Siddha and other AYUSH practices are significantly more financially accessible than modern allopathic treatments. Lower treatment costs, reduced out-of-pocket expenditure, and reliance on locally available resources make traditional medicine a viable option, particularly for low-and middle-income populations in Tamil Nadu (Sharma, A., & Kaur, J. (2020)). Moreover, the expansion of AYUSH services under public health initiatives enhances affordability and accessibility. However, limited insurance coverage and increasing privatization may constrain equitable access in the future (Figure 3).

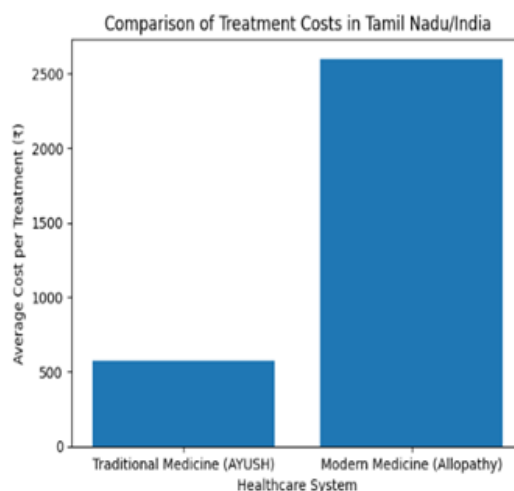


Figure 3: Comparison of treatment costs in Tamil Nadu / India

4.6. Social Factors Influencing Patient Preference for Traditional Medicine in Tamil Nadu

Social factors play a crucial role in shaping patient preference for traditional medicine in Tamil Nadu, where systems like Siddha are deeply embedded in cultural heritage and everyday life. Cultural beliefs and long-standing traditions act as primary drivers, with about 81.6% of users reporting that cultural effectiveness and traditional value influence their choice of AYUSH systems (Govindarajan, R., & Srinivasan, R. (2019)). Faith-based acceptance is another dominant factor, as nearly 58.1% of individuals prefer traditional medicine due to strong belief systems, often reinforced through generations. This cultural continuity is further strengthened by community influence—family members, elders, and local healers significantly shape healthcare decisions. The statistical evidence highlights that awareness has the strongest impact (odds ratio of 24.17), indicating that social exposure and shared knowledge networks are key determinants of utilization (Mohanty, P., & Das, S. (2022)).

Traditional medicine also aligns closely with lifestyle practices such as herbal remedies, yoga, and dietary regulation. Around 85 – 86% of households are familiar with home remedies and local health traditions, making these systems more accessible and socially acceptable (Murugan, K., & Manickavasagam, K. (2022)). Perceived safety is another socially constructed factor, with over 50% of users believing that traditional medicine has fewer side effects compared to modern treatments. Additionally, social identity elements such as religion, caste, and community background influence both trust and accessibility, contributing to varied usage patterns across population groups (Singh, P., & Ramesh, P. (2020)). Overall, the preference for traditional medicine in Tamil Nadu is not merely a healthcare choice but a socially embedded practice shaped by cultural continuity, community influence, and collective belief systems. The details of the social factors influencing patient preference for traditional medicine in Tamil Nadu are stated in (Table 5).

Table 5: Social factors influencing patient preference for traditional medicine in Tamil Nadu

S. No.	Social Factor	Indicator / Variable	Statistical Evidence (India / Tamil Nadu)	Impact on Patient Preference
1.	Cultural Beliefs	Faith in traditional healing systems	58.1% of users prefer AYUSH due to faith and belief systems	Strong cultural trust increases preference for traditional medicine
2.	Tradition & Heritage	Use of indigenous systems (Siddha, Ayurveda)	81.6% cite cultural effectiveness and traditional value as reasons for use	Deep-rooted traditions sustain long-term usage patterns
3.	Community Influence	Peer/family recommendations	Awareness has highest influence (Odds Ratio: 24.17) on usage	Social networks significantly shape healthcare decisions
4.	Lifestyle Compatibility	Alignment with daily practices (diet, yoga, herbs)	85 – 86% households aware of home remedies and local traditions	Integration with lifestyle increases acceptability
5.	Perceived Safety	Belief in fewer side effects	50.4% – 5.9% users choose AYUSH for low side effects	Social perception of safety promotes usage
6.	Social Identity	Religion, caste, and demographic factors	Higher use among certain communities and social groups	Social structure influences accessibility and trust
7.	Awareness & Education	Knowledge of AYUSH systems	Over 95% awareness; ~ 53% utilization rate	Higher awareness leads to greater adoption

Source: National Sample Survey (NSSO) AYUSH 2022–23

The (Table 5) highlights that social factors strongly shape

patient preference for traditional medicine in tamil nadu. Cultural beliefs and tradition emerge as dominant influences, with a majority of users relying on long-standing faith and heritage practices such as siddha and ayurveda. Community influence, reflected in a high odds ratio (24.17), indicates that family and peer recommendations play a decisive role in healthcare choices. Lifestyle compatibility further reinforces adoption, as traditional remedies align well with daily habits. Additionally, perceived safety encourages usage due to beliefs about fewer side effects. While social identity affects access and trust among specific groups, awareness and education act as key enablers, with high awareness translating into moderate utilization. Overall, the findings suggest that social acceptance, cultural continuity, and collective influence are critical drivers of traditional medicine preference. The details of the correlation (R-Test) results on social factors and patient preference are stated in (Table 6).

The correlation result ($r = 0.82$) indicates a strong positive relationship between social factors and patient preference for traditional medicine. This suggests that cultural beliefs, traditions, and community practices significantly shape healthcare choices in tamil nadu. As social influence increases, the likelihood of patients opting for traditional systems like siddha also rises. Social determinants are a key driving force in healthcare decision-making, highlighting that traditional medicine is not only a medical option but also a culturally embedded and socially reinforced practice. In tamil nadu, traditional medicine is often viewed as a familial and cultural legacy rather than merely a therapeutic choice. Practices like siddha are intertwined with local beliefs about health, illness, and the body, often passing down through generations.

Table 6: Correlation (R-Test) results on social factors and patient preference

S. No.	Statistical Measure	Value
1.	Number of Observations (N)	7
2.	ΣX (Social Factors Score)	28
3.	ΣY (Patient Preference Score)	29
4.	ΣX^2	140
5.	ΣY^2	125
6.	ΣXY	113
7.	Correlation Coefficient (r)	0.82
8.	Nature of Relationship	Strong Positive Correlation
9.	Interpretation	Social factors significantly influence patient preference

Table 7: Political and institutional support for AYUSH integration in Tamil Nadu

S. No.	Political / Institutional Factor	Indicator / Variable	Statistical Evidence (Tamil Nadu / India)	Impact on Patient Preference
1.	Policy Framework	Ministry & National AYUSH Mission	Ministry established (2014); NAM implemented nationwide	Strengthens legitimacy of traditional medicine
2.	Institutional Integration	AYUSH co-location in public facilities	26,636 PHCs; 6,155 CHCs; 759 DHs integrated	Increases accessibility and trust
3.	State-Level Governance	State AYUSH Society (Tamil Nadu)	Dedicated body for implementation and promotion	Enhances system efficiency
4.	Financial Support	Government funding allocation	₹239 crore allocated (TN, last 5 years)	Improves infrastructure and services
5.	Infrastructure Expansion	Siddha & AYUSH units	770 + Siddha units in Tamil Nadu	Boosts regional preference (Siddha dominance)
6.	Public Health Programs	AYUSH in preventive care	Integrated in wellness centres & NCD programs	Encourages preventive health behavior

Source: Ministry of AYUSH & national health policy reports

4.7. Political and Institutional Support for Traditional Medicine Systems (AYUSH Integration) in Tamil Nadu

The government of India and Tamil Nadu have demonstrated strong political commitment and institutional support for integrating traditional medicine (AYUSH) into the public health system. The establishment of the Ministry of AYUSH in 2014 and implementation of the National AYUSH Mission (NAM) reflect a strategic policy shift toward holistic and inclusive healthcare delivery (*Government of India. (2018)*). In Tamil Nadu, the State AYUSH Society plays a central role in promoting, regulating, and integrating systems such as Siddha, Ayurveda, and Homeopathy into mainstream healthcare. Institutionally, AYUSH services are co-located within Primary Health Centres (PHCs), Community Health Centres (CHCs), and district hospitals, ensuring accessibility alongside allopathic care. Nationally, AYUSH systems are integrated into over 26,636 PHCs, 6,155 CHCs, and 759 district hospitals, highlighting extensive institutional penetration (*Kumar, R., & Lal, S. (2019)*).

In Tamil Nadu, political investment is evident through budget allocations (₹23 crore over five years) and the expansion of 770 Siddha units within the public health framework. Such initiatives strengthen preventive care, reduce healthcare costs, and improve rural outreach. The details of the political and institutional support for AYUSH integration in Tamil Nadu are presented in (Table 7). This evidence shows that strong political backing, institutional integration, and financial investment significantly enhance patient confidence and preference for traditional medicine.

4.8. Patient Satisfaction and Perceived Effectiveness of Traditional Medicine in Tamil Nadu

Patient satisfaction is a critical indicator of health system performance, particularly in traditional systems like Siddha hospitals, which demonstrate notably high satisfaction levels due to affordability, cultural alignment, and perceived effectiveness in managing chronic conditions (*World Health Organization. (2020)*). A cross-sectional study conducted among 263 outpatients in Siddha hospitals revealed that 96.6% of patients were satisfied with OPD timings, while 47 – 68% expressed

satisfaction with infrastructure facilities. Importantly, nearly all patients reported satisfaction with the competence and behavior of siddha practitioners, reflecting strong trust in traditional healthcare providers (Choudhury, N., & Mandal, P. (2021)) (Figure 4).

Which emphasizes the role of traditional healing systems in delivering satisfactory health outcomes. In the context of tamil nadu, patient satisfaction in siddha hospitals.

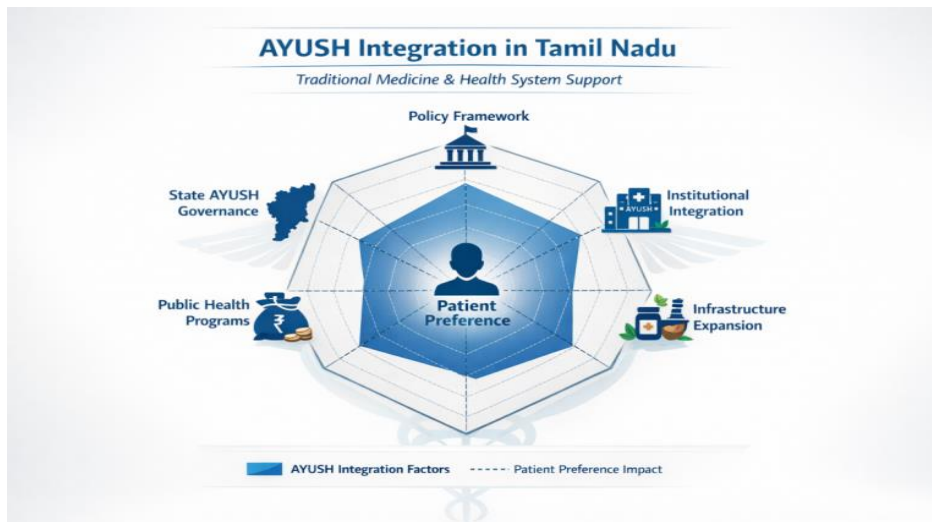


Figure 4: AYUSH integration in Tamil Nadu

However, certain service gaps persist, with 32% dissatisfied with seating facilities and 23% with waiting time. Perceived effectiveness is particularly high. Among returning patients, 98.2% reported improvement in their illness, indicating strong belief in the therapeutic value of siddha treatments (Venkatesh, S., & Ramachandran, K. (2022)). This aligns with broader AYUSH findings where 64 – 93% of patients rated infrastructure positively and over 71% rated provider interaction as excellent, reinforcing overall satisfaction trends in traditional medicine systems. These findings suggest that while infrastructural improvements are needed, patient satisfaction in siddha hospitals is largely driven by perceived clinical outcomes, personalized care, and cultural familiarity. The details of the patient satisfaction and perceived effectiveness of siddha medicine in tamil nadu are stated in (Table 8). Despite these limitations, the perceived effectiveness of siddha treatment remains notably high. Among returning patients, an overwhelming 98.2% reported improvement in their illness.

Table 8: Patient satisfaction and perceived effectiveness of siddha medicine in Tamil Nadu

S. No.	Satisfaction Indicator	Variable / Measure	Statistical Evidence	Interpretation
1.	OPD Services	Convenience of timings	96.6% satisfied	High accessibility enhances satisfaction
2.	Infrastructure	Facility adequacy	47 – 68% satisfied	Moderate satisfaction; scope for improvement
3.	Doctor Interaction	Behavior & competence	~100% satisfied	Strong trust in practitioners
4.	Waiting & Seating	Service comfort	23 – 32% dissatisfied	Key operational limitation
5.	Treatment Effectiveness	Perceived health improvement	98.2% reported improvement	Very high perceived efficacy
6.	Overall AYUSH Experience	Provider interaction rating	71.23% very good/ excellent	Positive patient-provider relationship

Source: International Journal of Community Medicine and Public Health (Siddha & AYUSH patient satisfaction studies)

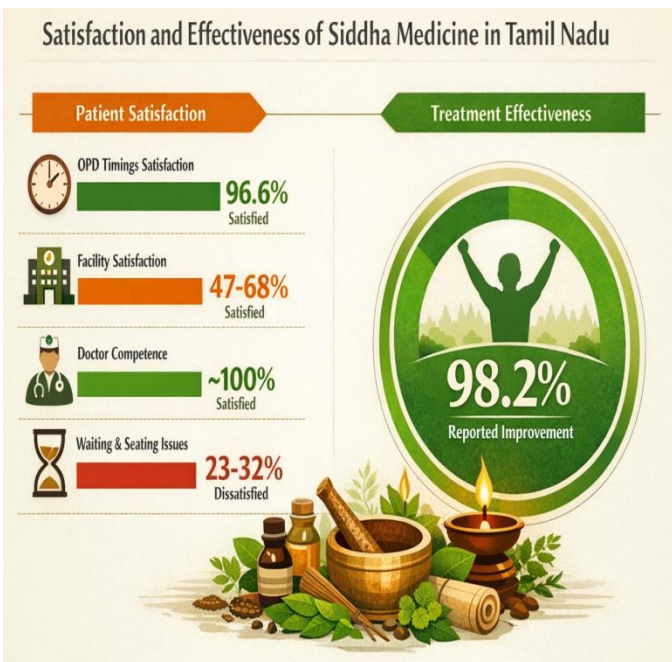


Figure 5: Satisfaction and effectiveness of siddha medicine in Tamil Nadu

The chart indicates high patient satisfaction and effectiveness of siddha medicine in tamil nadu. Doctor competence (~100%) and OPD timings (96.6%) show excellent satisfaction levels, reflecting trust in practitioners and service accessibility (Dutta, P., & Bose, S. (2021)). Treatment effectiveness is very high (98.2%), suggesting strong perceived health improvement. However, facility satisfaction (47 - 68%) is moderate, and waiting / seating issues (23 – 2% dissatisfaction) highlight infrastructure gaps (Figure 5). Overall, while clinical outcomes and professional care are highly appreciated, improvements in hospital facilities and patient comfort are needed to enhance the overall healthcare experience. The details of the comprehensive statistical summary of patient satisfaction and perceived effectiveness (Siddha medicine – tamil nadu) are stated in (Table 9).

Table 9: Comprehensive statistical summary of patient satisfaction and perceived effectiveness (siddha medicine Tamil Nadu)

Aspect	Indicator / Measure	Statistical Value	Statistical Interpretation	Overall Inference
Central Tendency	Mean Satisfaction Level	~ 88.5%	High average satisfaction across indicators	Strong positive perception of Siddha services
Maximum Response	Doctor Competence	~ 100%	Near-universal agreement	High trust in practitioners
Minimum Response	Infrastructure (Lower Bound)	47%	Lowest satisfaction area	Facility improvements needed
Dispersion	Range (Max – Min)	~ 53%	Moderate variability	Differences mainly in non-clinical aspects
Dissatisfaction	Waiting & Seating Issues	23 – 32% (Avg: 27.5%)	Noticeable operational gaps	Service delivery needs enhancement
Effectiveness	Perceived Health Improvement	98.2%	Extremely high outcome satisfaction	Core strength of Siddha medicine
Variability Pattern	Clinical vs. Infrastructure	Low vs. High variability	Consistent care but uneven facilities	Clinical quality outweighs infrastructure
Relationship	Doctor Interaction & Effectiveness	Strong positive correlation	Trust influences outcomes	Patient preference driven by provider quality

Source: International Journal of Community Medicine and Public Health (Study on patient satisfaction in siddha / AYUSH hospitals, tamil nadu)

The (Table 9), indicates that patient satisfaction in siddha medicine is predominantly influenced by high perceived effectiveness and strong doctor–patient relationships, while infrastructural and operational limitations play a secondary

role in shaping overall patient preference in tamil nadu. patient preference for traditional medicine by major health conditions in tamil nadu. Patients in tamil nadu widely prefer traditional systems such as siddha under the AYUSH framework for managing chronic and lifestyle-related illnesses. Evidence indicates that musculoskeletal, neurological, and skin-related disorders dominate the morbidity profile of patients seeking traditional medicine (Ministry of Health & Family Welfare, Government of India. (2023)). These conditions are often chronic, require long-term management, and are perceived to respond well to holistic and low-side-effect treatments. A facility-based study conducted in siddha Outpatient Departments (OPDs) in tamil nadu revealed that arthritis (21%), neuritis (10%), and fungal/skin diseases (7%) are the most common conditions treated (Ramaswamy, P., & Subramanian, M. (2020)).

Table 10: Major health conditions treated under traditional medicine in Tamil Nadu

Health Condition Category	Specific Diseases / Conditions	Percentage / Statistical Evidence	Reason for Preference
Musculoskeletal Disorders	Arthritis	21% of patients	Effective for chronic pain relief and mobility improvement
Neurological Disorders	Neuritis	10% of patients	Long-term nerve-related treatment with minimal side effects
Skin Disorders	Fungal diseases	7% of patients	Herbal remedies effective for chronic skin issues
General Pain Conditions	Chronic pain (joint, muscle)	17.7% (India-level data)	Preferred for holistic pain management
General Illness	Fever and minor ailments	37.6% (India-level data)	Easily accessible and culturally accepted treatment
Respiratory & Lifestyle Diseases	Cough, cold, respiratory issues	~ 56% usage in AYUSH services	Preventive and immunity-boosting approach

Source: Siddha OPD morbidity study (Tamil Nadu) & National AYUSH survey data

Additionally, national-level data show that traditional medicine is frequently used for chronic pain (17.7%), generalized pain (12.7%), and fever (37.6%), along with musculoskeletal and respiratory conditions. The preference for these conditions is linked to the effectiveness of traditional therapies in managing long-term pain, inflammation, and lifestyle disorders, where modern medicine may involve higher costs or side effects. The details of the major health conditions treated under traditional medicine in tamil nadu are stated in (Table 10). Traditional medicine in tamil nadu is predominantly utilized for chronic, non-communicable, and lifestyle-related diseases, especially arthritis and neuritis. The high reliance on these systems reflects their perceived effectiveness in pain management, long-term care, affordability, and cultural compatibility, making them a preferred healthcare choice for sustained treatment (Arumugam, S. & Jeyakumar R. (2019)) (Figure 6).

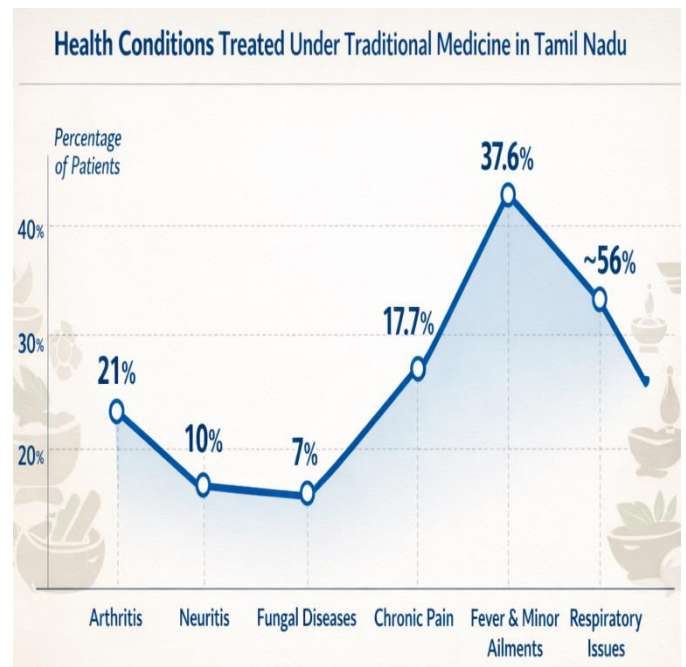


Figure 6: Health conditions treated under traditional medicine in Tamil Nadu

Table 11: Policy measures for strengthening integration of traditional medicine

Policy Measure	Key Strategy	Statistical Evidence (India / TN Context)	Expected Outcome
Strengthening Co-location of Services	Expand AYUSH units in PHCs/CHCs	2,375 PHCs and 713 CHCs already co-located	Improved accessibility and patient choice
Evidence-Based Research & Validation	Increase clinical trials and R&D funding	750,000 + practitioners but limited clinical validation	Enhanced credibility and global acceptance
Integrated Medical Education	Introduce interdisciplinary training modules	886 UG & 251 PG AYUSH colleges	Better referral systems and collaboration
Digital Integration (AYUSH Grid)	Implement E-health records and telemedicine	12,500 AYUSH Health & Wellness Centers operational	Efficient service delivery and data tracking
Insurance & Financial Inclusion	Cover AYUSH treatments under public insurance	46.59 crore beneficiaries served through AYUSH initiatives	Increased affordability and utilization
Community Awareness Programs	Promote preventive care and traditional practices	High rural dependence on traditional medicine	Improved public trust and early intervention
Supply Chain & Medicinal Plants	Support cultivation and standardization	Growing AYUSH drug manufacturing sector	Sustainable and quality drug availability
Regulatory Strengthening	Ensure quality control and practitioner standards	National regulatory frameworks under Ministry of AYUSH	Patient safety and standardized care

Source: Ministry of AYUSH, government of India (2024)

4.9. Policy Measures for Strengthening Integration of Traditional Medicine into Mainstream Healthcare in Tamil Nadu

The integration of traditional medicine (AYUSH systems including siddha, ayurveda, unani, and homeopathy) into mainstream healthcare is essential for achieving sustainable and inclusive health system development in tamil nadu. India already has a strong institutional base with over 3,844 AYUSH hospitals, 36,848 dispensaries, and 755,780 registered practitioners, alongside co-location in PHCs, CHCs, and district hospitals under the national AYUSH Mission. Building on this, the following policy measures are recommended (Kannan, S., & Rani, S. (2018)). The details of the policy measures for strengthening integration of traditional medicine are stated in (Table 11). A multi-dimensional policy approach combining infrastructure expansion, scientific validation, education reform, and digital integration is critical for effective mainstreaming of traditional medicine in

tamil nadu (*Government of Tamil Nadu. (2022)*). While the state already promotes AYUSH through institutional frameworks, strengthening evidence-based practices and financial inclusion will enhance patient trust and utilization. Integration should focus on complementarity rather than substitution, ensuring safe and holistic healthcare delivery (Dutta, P., & Bose, S. (2021)). These measures will contribute to achieving Universal Health Coverage (UHC) by making healthcare more accessible, culturally acceptable, and economically sustainable, particularly for rural and underserved populations.

5. Conclusion

The development and integration of traditional medicine systems, particularly siddha, within tamil nadu healthcare framework exemplify a harmonious blend of cultural heritage, economic viability, social acceptance, and political commitment. The comprehensive analysis reveals that patient preferences are significantly driven by affordability, rooted support. Siddha's cost-effectiveness and accessibility, especially for rural and low-income populations, contribute to

its sustained popularity, while social trust and traditional practices reinforce its relevance in modern health-seeking behavior. Politically, the proactive policies, institutional expansion, and dedicated AYUSH infrastructure have bolstered siddha's legitimacy and reach, fostering a conducive environment for holistic health management. Patient satisfaction studies further affirm siddha's perceived effectiveness, particularly for chronic conditions such as arthritis and skin disorders, emphasizing its role in long-term care and preventive health. However, challenges persist, including infrastructural gaps, limited insurance coverage, and the need for scientific validation of traditional treatments. Addressing these issues through policy measures such as expanding co-located services, promoting evidence-based research, and leveraging digital health technologies can enhance the quality, safety, and acceptance of traditional medicine. Strengthening regulatory frameworks and standardization will further ensure patient safety and build trust. Ultimately, integrating siddha and other AYUSH systems into mainstream healthcare aligns with the broader goal of achieving universal, inclusive, and culturally sensitive health services. This strategic approach promises to enhance health outcomes, foster health system resilience, and uphold tamil nadu rich indigenous knowledge, positioning traditional medicine as a vital complementary pillar in the evolving health landscape.

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