

Documentation of Diagnostic Tools and Various Practices for Kaamalai (Jaundice) among Traditional Practitioners in Tiruttani, Tiruvallur District

O. K. Dilliraja^{1,*}, Srivarshini Krishnaswamy², M. Muthukumaran¹

¹Department of Noi Naadal (Siddha Pathology), Government Siddha Medical College and Hospital (Affiliated to The Tamil Nadu Dr. M.G.R. Medical University), Chennai, Tamil Nadu, INDIA.

²Government Siddha Medical College and Hospital, CRRI (Affiliated to The Tamil Nadu Dr. M.G.R. Medical University), Chennai, Tamil Nadu, INDIA.

ABSTRACT

Background: Kaamalai (jaundice) is a common clinical condition associated with liver dysfunction and is widely managed in the Siddha system of medicine using traditional diagnostic and therapeutic approaches. However, there is limited documentation on the practices followed by traditional Siddha practitioners. The present study aimed to document the diagnostic tools and treatment practices adopted by practitioners in Tiruttani, Tiruvallur district. **Materials and Methods:** A cross-sectional descriptive study was conducted among 25 traditional Siddha practitioners using a semi-structured questionnaire and interview method. **Results:** The findings showed that most practitioners had extensive clinical experience and predominantly used Siddha diagnostic methods such as Naadi, Neerkuri and Neikkuri. Various internal medicines including Chooranam, Parpam, Chendooram, Chunnam and Karkam were commonly prescribed, with Keezhanelli-based preparations frequently used. External therapies were rarely practiced. **Conclusion:** Most practitioners reported no major adverse reactions, and treatment duration varied based on clinical condition. The study highlights the importance of documenting traditional practices for future research and clinical validation.

Keywords: Diagnostic tools, Jaundice, Kaamalai, Siddha medicine, Traditional practitioners.

Correspondence:

O. K. Dilliraja

PG Scholar, Department of Noi Naadal (Siddha Pathology), Government Siddha Medical College and Hospital (Affiliated with The Tamil Nadu Dr. M.G.R. Medical University), Chennai-106, Tamil Nadu, INDIA.

Email: dillirajaok99@gmail.com

ORCID: 0009-0009-8826-2411

Received: 15-07-2026;

Revised: 06-08-2026;

Accepted: 28-09-2026.

INTRODUCTION

Jaundice (icterus) is a condition in which the skin, eyes and mucous membranes become yellow due to increased levels of bilirubin in the blood. It usually becomes visible when the bilirubin level rises above 2-3 mg/dL. Jaundice is not a disease by itself but a sign of underlying problems related to the liver or bile flow. It is commonly classified into pre-hepatic, hepatic and post-hepatic types based on the cause (Roche and Kobos, 2004). Jaundice is commonly seen worldwide, especially in newborn babies. About 60% of full-term infants and 80% of preterm infants develop jaundice in the first week of life (Maisels and McDonagh, 2008). In adults, it occurs due to conditions such as viral hepatitis, alcohol-related liver disease and obstruction of bile flow. The burden of jaundice is higher in developing countries due to infections and limited healthcare facilities. The incidence

varies in different regions and is often influenced by seasonal outbreaks of hepatitis A and E. Neonatal jaundice is also one of the most common reasons for hospital admission in newborns and contributes significantly to child health problems (Maisels and McDonagh, 2008; Roberts, 2017). Jaundice can lead to serious complications if not treated early. In newborns, untreated jaundice may cause kernicterus, which leads to permanent brain damage (Maisels and McDonagh, 2008). In adults, long-term jaundice can result in chronic liver disease, cirrhosis and liver cancer. Obstructive jaundice may also cause complications such as infection, biliary cirrhosis and liver failure (Tapper and Parikh, 2018). Therefore, early diagnosis and proper treatment are very important.

The Siddha system of medicine is one of the oldest traditional systems of medicine practiced in Tamil Nadu. In Siddha, jaundice is known as Kaamalai and is mainly caused by the disturbance of Pitham (Azhal), along with Vaatham and Kabam. Classical Siddha texts describe different types of Kaamalai based on symptoms and humoral changes. Diagnosis in Siddha is done using Envagai Thervu (eight-fold examination), which includes Naadi (pulse), Naa (tongue), Niram (colour), Mozhi (speech), Vizhi (eyes), Malam (faeces), Neer (urine) and Sparisam (touch).



DOI: 10.5530/ajbls.20260144

Copyright Information :

Copyright Author (s) 2026 Distributed under
Creative Commons CC-BY 4.0

Publishing Partner : Manuscript Technomedia, [www.mstechnomedia.com]

Among these, Naadi, Neerkuri and Neikkuri are important for understanding the disease condition (Shanmugavelu, 2021-2014). Traditional Siddha practitioners play an important role in providing healthcare, especially in rural areas where modern medical facilities are limited. They use herbal, mineral and animal-based medicines along with traditional diagnostic methods. However, there are differences in treatment practices among practitioners due to regional and cultural factors. Even though Siddha medicine is widely used for jaundice, there is limited scientific documentation about the diagnostic methods and treatments followed by traditional practitioners. Therefore, this study aims to document the diagnostic tools and treatment practices followed by traditional Siddha practitioners in Tiruttani, Tiruvallur district. This will help in preserving traditional knowledge and support future research on Siddha medicines for liver diseases.

MATERIALS AND METHODS

Study Design

The present study was a cross-sectional descriptive study conducted to document the diagnostic tools and treatment practices followed by traditional Siddha practitioners for the management of Kaamalai (Jaundice).

Study Area

The study was carried out in Tiruttani and surrounding areas of Tiruvallur district, Tamil Nadu, India, where several traditional Siddha practitioners are actively practicing indigenous medicine.

Study Period

The study was conducted over a period of three months.

Study Participants

Traditional Siddha practitioners practicing in Tiruttani were included in the study. A total of 25 practitioners aged between 35 and 60 years were selected as study participants. Practitioners with long-standing experience in traditional medicine and those willing to share their knowledge were included.

Inclusion Criteria

Traditional Siddha practitioners practicing in and around Tiruttani, Tiruvallur district, aged between 35 and 60 years, with experience in traditional medical practice and willing to share

their knowledge on diagnostic tools and treatment practices for Kaamalai (Jaundice) were included in the study.

Exclusion Criteria

Practitioners who were unwilling to participate, those who did not provide complete information, and individuals not actively practicing traditional Siddha medicine in the study area were excluded from the study.

Data Collection

Data were collected through field visits to traditional practitioners. Information regarding diagnostic tools, treatment methods, and medicinal formulations used in the management of Kaamalai was obtained using a semi-structured questionnaire and open-ended interviews. The questionnaire included questions related to diagnostic methods such as Naadi, Neerkuri, and Neikkuri, types of medicines prescribed, and treatment duration.

Data Analysis

The collected data were compiled and analyzed using Microsoft Excel. Descriptive statistics such as frequency and percentage distribution were used to summarize the findings. The results were presented using tables and graphical representations such as bar charts and pie diagrams.

Ethical Consideration

Prior informed consent was obtained from all participating practitioners before collecting the data. Confidentiality of the participants' identity and information was strictly maintained during the study.

RESULTS

The demographic characteristics of traditional Siddha practitioners are presented in Tables 1 and 2, indicating that most practitioners were elderly with extensive clinical experience. The diagnostic tools used are summarized in Table 3 and illustrated in Figure 1, showing a predominance of Siddha diagnostic methods. The use of purgation therapy is depicted in Table 4, indicating limited adoption among practitioners. The internal medicines used for the management of Kaamalai are presented in Tables 5-9, and their overall distribution is illustrated in Figure 2. External therapies were rarely practiced, as shown in Table 10. The types of jaundice treated and other associated conditions managed by practitioners are presented in Tables 11-12, respectively. The

Table 1: Age distribution of traditional Siddha practitioners.

Sl. No.	Age Group (Years)	Number of Practitioners (n)	Percentage (%)
1.	Above 60 years	10	40
2.	50-60 years	8	32
3.	40-50 years	5	20
4.	35-40 years	2	8

Table 2: Years of experience of traditional Siddha practitioners.

Sl. No.	Years of Experience	Number of Practitioners (n)	Percentage (%)
1.	50 years	16	64
2.	40 years	5	26
3.	35 years	2	10
4.	30 years	2	10

Table 3: Diagnostic tools followed by traditional Siddha practitioners.

Sl. No.	Diagnostic Tool Used	Number of Practitioners (n)	Percentage (%)
1.	Only Siddha diagnostic tools	20	80
2.	Both Siddha and modern diagnostic tools	5	20

Table 4: Treatment procedure followed for purgation.

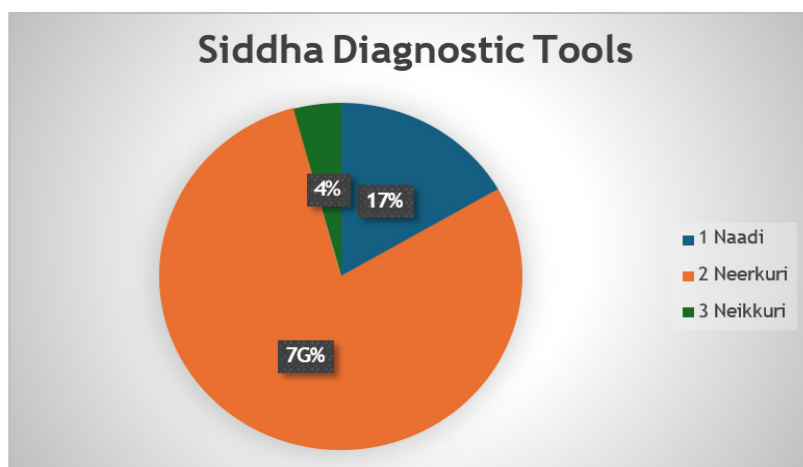
Sl. No.	Medicine / Procedure	Number of Practitioners (n)	Percentage (%)
1.	Agathiyar Kuzhambu	1	4
2.	Not followed	24	96

Table 5: Chooranam preparations used by traditional Siddha practitioners for Kaamalai.

Sl. No.	Chooranam Preparation	Number of Practitioners (n)	Percentage (%)
1.	Astavarga chooranam	1	4
2.	Thayir chundi chooranam	1	4
3.	Keezhanelli chooranam	3	12

Table 6: Parpam preparations used by traditional Siddha practitioners.

Sl. No.	Parpam Preparation	Number of Practitioners (n)	Percentage (%)
1.	Amai ottu parpam	1	4
2.	Naththai ottu parpam	2	8
3.	Palagarai parpam	1	4
4.	Sangu parpam	1	4

**Figure 1: Distribution of diagnostic tools used by traditional Siddha practitioners.**

literature sources followed by practitioners are summarized in Table 13, while adverse reactions observed during treatment are presented in Table 14. The duration of treatment followed by practitioners is shown in Table 15, indicating variability in clinical practice.

DISCUSSION

The present study documented the diagnostic approaches and therapeutic practices followed by traditional Siddha practitioners for the management of Kaamalai (jaundice) in Tiruttani,

Tiruvallur district. The findings indicate that traditional diagnostic principles and herbal-mineral formulations continue to play an important role in the management of hepatic disorders in rural healthcare settings. The study observed that most practitioners involved in traditional Siddha practice were elderly and had several decades of clinical experience. This reflects the traditional mode of knowledge transmission in indigenous medical systems, where medical knowledge is often preserved among senior practitioners and passed through generations. Similar observations have been reported in studies evaluating prescription practices among Siddha physicians, highlighting the significant role of experienced practitioners in maintaining traditional healthcare practices (Kumar *et al.*, 2019).

With regard to diagnostic approaches, most practitioners relied primarily on classical Siddha diagnostic methods such as Naadi, Neerkuri and Neikkuri. Among these, urine examination (Neerkuri) was widely used for assessing disease condition and prognosis. Classical Siddha literature emphasizes the importance

of urine examination in evaluating derangements of the three humours, particularly in metabolic and systemic disorders (Shanmugavelu, 2021). Similar diagnostic practices have been reported in observational studies evaluating Siddha prescription patterns in clinical practice (Sivaprakash *et al.*, 2020). The present study also documented the use of various internal medicines for the management of Kaamalai. Herbal preparations containing Keezhanelli (*Phyllanthus amarus*) were frequently used by practitioners. Previous pharmacological studies have demonstrated that *Phyllanthus* species possess hepatoprotective, antiviral and antioxidant properties, which may contribute to their therapeutic effect in liver disorders (Bagalkotkar *et al.*, 2006; Patel *et al.*, 2011). The common use of Keezhanelli formulations in the present study supports its traditional reputation as an effective remedy for jaundice. In addition to herbal preparations, several practitioners also prescribed higher-order Siddha medicines such as Parpam, Chendooram and Chunnam. These herbomineral formulations are believed to enhance therapeutic efficacy through

Table 7: Chendooram preparations used by traditional Siddha practitioners.

Sl. No.	Chendooram Preparation	Number of Practitioners (n)	Percentage (%)
1.	Annabedhi chendooram	2	8
2.	Aya chendooram	2	8
3.	Ayakandha chendooram	2	8
4.	Kantha chendooram	1	4

Table 8: Chunnam preparations used by traditional Siddha practitioners.

Sl. No.	Chunnam Preparation	Number of Practitioners (n)	Percentage (%)
1.	Vedippu chunnam	2	8
2.	Muthuchippi chunnam	2	8
3.	Pavala chunnam	1	4
4.	Padikara chunnam	1	4
5.	Venkara chunnam	1	4
6.	Navachara chunnam	2	8

Table 9: Karkam preparations used by traditional Siddha practitioners.

Sl. No.	Karkam Preparation	Number of Practitioners (n)	Percentage (%)
1.	Keezhanelli karkam	25	100
2.	Avuri ilai karkam	2	8
3.	Nanjaruppan ilai karkam	1	4
4.	Katrayazhai ver karkam	1	4
5.	Peenari ilai karkam	2	8
6.	Amanakku ilai karkam	1	4

Table 10: External therapies used by traditional Siddha practitioners.

Sl. No.	External Therapy	Number of Practitioners (n)	Percentage (%)
1.	Uloga suttigai	1	4
2.	Kalikkam	1	4
3.	No external medicine	23	92

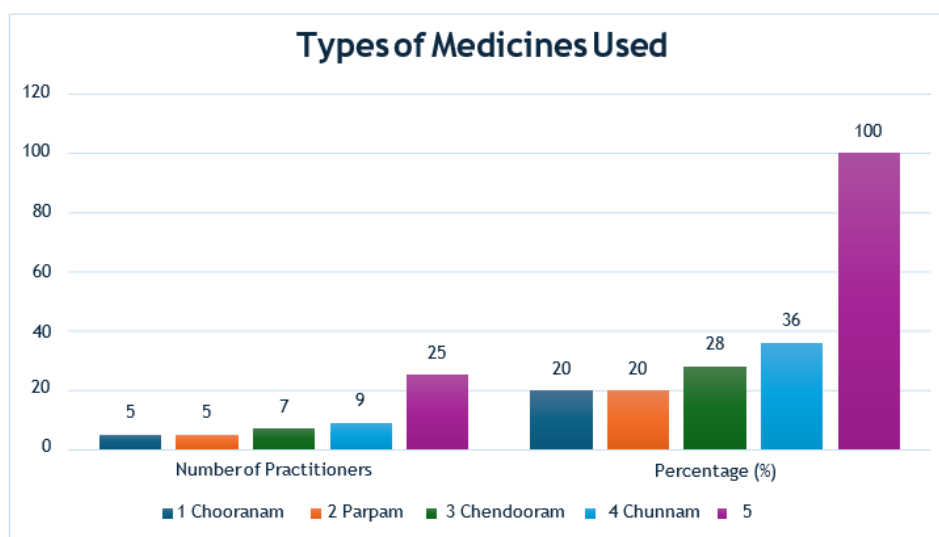


Figure 2: Distribution of different types of medicines used by traditional Siddha practitioners for the treatment of Kaamalai.

Table 11: Types of jaundice treated by traditional Siddha practitioners.

Sl. No.	Type of Jaundice Treated	Number of Practitioners (n)	Percentage (%)
1.	Alcoholic jaundice	10	40
2.	Non-alcoholic jaundice	15	60

Table 12: Diseases treated by traditional Siddha practitioners other than jaundice.

Sl. No.	Disease	Number of Practitioners (n)	Percentage (%)
1.	Kidney stone	10	40
2.	Gunmam	6	25
3.	Moolam	5	20

Table 13: Literature evidence followed by traditional Siddha practitioners.

Sl. No.	Literature Source	Number of Practitioners (n)	Percentage (%)
1.	Yugi Vaithiya Chinthamani	1	4
2.	Kannusami Paramparai Vaithiyam	1	4
3.	No literature evidence	23	92

Table 14: Adverse reactions observed during the treatment of jaundice.

Sl. No.	Adverse Reaction	Number of Practitioners (n)	Percentage (%)
1.	Gastritis	5	20
2.	Diarrhoea	2	8
3.	Vomiting	2	8
4.	No adverse reaction	16	64

Table 15: Duration of treatment followed by traditional Siddha practitioners.

Sl. No.	Duration of Treatment	Number of Practitioners (n)	Percentage (%)
1.	90 days	10	40
2.	10 days	10	40
3.	Not fixed	5	20

specialized purification and calcination processes. Previous pharmacological investigations have suggested that properly prepared Siddha formulations may exhibit anti-inflammatory and metabolic regulatory effects (Sivaraman *et al.*, 2019).

External therapeutic procedures were less commonly practiced in the management of Kaamalai, suggesting that practitioners primarily rely on internal medicines for treatment. The study also revealed that traditional practitioners manage a wide range of disorders including kidney stones, Gunmam and Moolam, indicating their broad clinical role in rural healthcare delivery. Most practitioners reported no major adverse reactions during treatment, suggesting that traditional formulations are generally well tolerated when used appropriately. Similar findings have been reported in studies assessing Siddha prescription practices (Worrall, 2011). The duration of treatment varied among practitioners, reflecting individualized treatment approaches based on disease severity and patient condition.

CONCLUSION

The findings indicate that traditional Siddha practitioners widely utilize classical diagnostic methods such as Naadi, Neerkuri and Neikkuri along with various herbal and herbo-mineral formulations in clinical practice. The study highlights the importance of preserving indigenous medical knowledge practiced in rural communities. Documentation of these practices provides baseline information for further pharmacological studies and clinical validation of Siddha formulations used in liver disorders.

ACKNOWLEDGEMENT

The authors acknowledge the support and facilities provided by the Govt. Siddha Medical College, Chennai for their support in this study.

ABBREVIATIONS

CRRI: Compulsory Rotatory Residential Internship; **dL:** Deciliter; **GSMC:** Government Siddha Medical College; **IEC:** Institutional Ethical Committee; **mg:** Milligram; **mg/dL:** Milligrams per Deciliter; **n:** Number; **PG:** Post Graduate; **PMID:** PubMed Identifier; **%:** Percentage.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ETHICAL APPROVAL

The study was approved by the Institutional Ethical Committee (IEC), Government Siddha Medical College, Chennai - 600106 (IEC No: GSMC-CH 1243/ME-II/062/2024).

AUTHOR CONTRIBUTION

Conceptualization: OKD; Data collection and compilation: OKD; Manuscript Writing: OKD; Proofreading and editing: OKD SVK and MK.

SUMMARY

This cross-sectional descriptive study documented the diagnostic tools and treatment practices followed by 25 traditional Siddha practitioners for managing Kaamalai (Jaundice) in Tiruttani, Tiruvallur District. The study found that Naadi, Neerkuri, and Neikkuri were the primary diagnostic methods used, while Keezhanelli-based formulations and other Siddha medicines were commonly prescribed. Most practitioners reported satisfactory outcomes with minimal adverse effects. The findings emphasize the importance of preserving traditional Siddha knowledge and provide baseline data for future scientific validation and research on Siddha management of liver disorders.

REFERENCES

- Bagalkotkar, G., Sagineedu, S. R., Saad, M. S., & Stanslas, J. (2006). Phytochemicals from *Phyllanthus niruri* Linn. and their pharmacological properties: A review. *Journal of Pharmacy and Pharmacology*, 58(12), 1559-1570. <https://doi.org/10.1211/jpp.58.12.0001>
- Maisels, M. J., & McDonagh, A. F. (2008). Phototherapy for neonatal jaundice. *New England Journal of Medicine*, 358(9), 920-928. <https://doi.org/10.1056/NEJMct0708376>
- Naveen Kumar, R., Vivekanandhan, E., & Anbu, N. (2019). A cross-sectional study on the prescription practice for treatment of Uthiravatha Suronitham (Rheumatoid arthritis) among Siddha physicians. *International Journal of Translational Research in Indian Medicine*, 1(2), 33-40.
- Patel, J. R., Tripathi, P., Sharma, V., Chauhan, N. S., & Dixit, V. K. (2011). *Phyllanthus amarus*: Ethnomedicinal uses, phytochemistry and pharmacology: A review. *Journal of Ethnopharmacology*, 138(2), 286-313. <https://doi.org/10.1016/j.jep.2011.09.040>
- Roberts, I. (2017). Review of *Nelson's textbook of pediatrics* (20th ed.), edited by R. Kliegman, B. Stanton, J. St. Geme, & N. Schor. *Pediatric Radiology*, 47, 1426-1427. <http://doi.org/10.1007/s00247-017-3907-9>
- Roche, S. P., & Kobos, R. (2004). Jaundice in the adult patient. *American Family Physician*, 69(2), 299-304.
- Shanmugavelu, M. (2014). *Noi Naadal Noi Mudhal Naadal* (Part I, 6th ed.). Chennai: Department of Indian Medicine and Homeopathy.
- Shanmugavelu, M. (2021). *Noi Naadal Noi Mudhal Naadal* (Part II, 7th ed.). Chennai: Department of Indian Medicine and Homeopathy.
- Sivaprakash, A., Abisha, R., Anbu, N., & Chithra, S. M. (2020). Assessment of various prescription practices among Siddha physicians in the treatment of Azhal Thalainokkadu (Sinusitis). *International Journal of Translational Research in Indian Medicine*, 2(2), 16-22.
- Sivaraman, D., Anbu, N., Kabilan, N., Kumar, M. P., Ponnappan, S., & Christian, G. J. (2019). Exploration of anti-urolithiasis potential of traditional Siddha formulations Amukkara Chooranam and Karisalai Karpam Chooranam by struvite crystal growth inhibition assay. *Pharmacognosy Journal*, 11(4), 683-688. <https://doi.org/10.5530/pj.2019.11.108>
- Tapper, E. B., & Parikh, N. D. (2018). Mortality due to cirrhosis and liver cancer in the United States, 1999-2016: Observational study. *BMJ*, 362, k2817. <https://doi.org/10.1136/bmj.k2817>
- Worrall, G. (2011). Acute sinusitis. *Canadian Family Physician*, 57(5), 565-567.

Cite this article: Dilliraja OK, Krishnaswamy S, Muthukumaran M. Documentation of Diagnostic Tools and Various Practices for Kaamalai (Jaundice) among Traditional Practitioners in Tiruttani, Tiruvallur District. *Asian J Biol Life Sci.* 2026;15(3):676-81.