Research Article

www.ijrap.net

(ISSN Online:2229–3566, ISSN Print:2277–4343)

LITERARY DOCUMENTATION AND PHARMACEUTICAL PREPARATION OF SYNTHETIC CORAL (PAVAZHAM VAIPPU) IN SIDDHA MEDICINE

Raguraman N, Sivamathi T *

PG Scholar, Department of PG Gunapadam, Government Siddha Medical College & Hospital, Palayamkottai, Tamil Nadu, India

Received on: 04/7/26 Accepted on: 22/7/26

***Corresponding author**
E-mail: sivateddy1109@gmail.com

DOI: 10.7897/2277-4343.174143

ABSTRACT

Background: Pavazham is an important mineral drug in Siddha medicine, but the scarcity of natural coral and ecological restrictions have encouraged the use of classical substitution methods. Objective: This study documents the literary basis and pharmaceutical preparation of Synthetic Coral, known as Pavazham Vaippu, described in Siddha literature. Materials and Methods: We reviewed classical Siddha references and compiled the preparation procedure described in Agasthiyar Vadha Sowmiyam into a stepwise pharmaceutical protocol. The process included purification of raw materials, powdering, wet grinding with breast milk, bead formation, solar drying, fish-based processing in sesame oil, and final drying. Results: The documented method produced a uniform preparation with progressive organoleptic changes during processing. The procedure reflects a traditional Siddha approach that combines mineral, biological, and thermal methods to produce a substitute for natural coral. Conclusion: Synthetic coral (Pavazham Vaippu) is a classical Siddha substitution strategy that supports conservation of natural resources while preserving traditional pharmaceutical knowledge. This documentation may serve as a basis for future standardization and analytical evaluation.

Keywords: Pavazham Vaippu, Siddha medicine, synthetic coral, pharmaceutical preparation, traditional formulation

INTRODUCTION

The Siddha system of medicine is a traditional medical heritage of South India that employs herbal, mineral, and marine-origin drugs in carefully processed formulations[1,2]. In Siddha pharmaceutics, raw substances are often subjected to purification and transformation procedures to improve safety, stability, and therapeutic utility[1]. Among the marine drugs described in classical literature, Pavazham (coral) occupies an important position and is traditionally used in formulations intended for respiratory, febrile, and rejuvenative conditions[2,5].

Natural coral has become increasingly difficult to obtain because of ecological concerns, conservation restrictions, and the risk of adulteration[3]. To address such limitations, Siddha literature describes Vaippu Murai (substitution method), a technique used when the original raw material is unavailable[4,5]. One such preparation is Pavazham Vaippu (synthetic coral), described in Agasthiyar Vadha Sowmiyam, where mineral ingredients, biological media, and thermal processing are employed to obtain a coral-like substitute[4].

Although this preparation is recorded in classical sources, its pharmaceutical sequence and practical rationale are not always presented in a standardized academic form[3]. Documenting the procedure is therefore important for preserving traditional knowledge and supporting future scientific evaluation. The present study aims to compile the literary basis and describe the pharmaceutical preparation of Synthetic Coral (Pavazham Vaippu) in a structured manner suitable for contemporary reporting.

MATERIALS AND METHODS

Literary Source

The primary classical source for this work was Agasthiyar Vadha Sowmiyam, which describes the preparation of Pavazham Vaippu[4]. Additional Siddha references were consulted to understand the traditional context of marine and mineral drug processing[1,2,5,6,7].

Materials Used

The ingredients listed in the classical method were Gowri Sangu (a purified variety of conch shell), purified Sathi Lingam (a Siddha mineral drug), fresh breast milk (Thaipal), sesame oil, and snake-head fish (*Channa striata*)[4]. The quantities recorded in the manuscript were 70 g of Gowri Sangu, 140 g of Sathi Lingam, 200 mL of breast milk, 5 L of sesame oil, and two snake-head fish (Channa striata)[4].

Purification

Gowri Sangu was soaked in lemon juice, exposed to sunlight for 12 hours, and then washed[4]. Sathi Lingam was soaked in lemon juice for 3 days and washed thoroughly[4]. Breast milk was filtered after adding a small quantity of Thumbai flower (*Leucas aspera*), following the classical description[4].

Preparation Procedure

The purified Gowri Sangu and Sathi Lingam were powdered finely[4]. The powders were triturated with breast milk for approximately 6 hours daily until a smooth, wax-like mass was obtained[4]. Small beads were then formed with a central perforation and strung on steel rods. The beads were sun-dried for 3 consecutive days[4].

The dried beads were placed inside the abdominal cavity of snake-head fish (*Channa striata*) and tied securely[4]. The fish was immersed in sesame oil and heated moderately until the stage described as Saminthapatham (the classical processing end-point indicator)[4]. After heating, the beads were removed, washed, and again sun-dried for 3 days to obtain Pavazham Vaippu[4].

Documentation Approach

The procedure was documented stepwise to preserve the classical order of operations and make the preparation understandable for contemporary academic readers. The present work is a literary and pharmaceutical documentation study rather than an experimental pharmacological evaluation.

RESULTS

Classical Documentation

The classical text describes Pavazham Vaippu as a substitution preparation for natural coral, using a combination of mineral and biological processing steps[4]. The sequence begins with purification, followed by trituration in breast milk, bead formation, solar drying, fish-based heating in sesame oil, and final drying, as summarised in Table 1[4].

Observed Pharmaceutical Changes

During trituration, the powder gradually changed from a coarse reddish mixture to a smooth paste and finally to a cohesive wax-like mass, as shown in Table 2[4]. After bead formation and sun drying, the material became firmer and suitable for the fish-processing stage. Following oil heating and final drying, the product was obtained as a stable synthetic coral preparation.

Table 1: Time–temperature observation during processing of Pavazham Vaippu

Stage	Observation	Time / Condition
Grinding	Coarse reddish powder gradually became a smooth paste	6 hours daily
Bead formation	Waxy mass shaped into beads	Manual shaping
Solar drying	Beads hardened progressively	3 days
Oil heating	Processed inside fish in sesame oil	15 minutes
Final drying	Product became stable and dry	3 days

Table 2: Organoleptic changes observed during grinding

Stage	Observation
Initial	Coarse reddish powder
Mid grinding	Smooth paste formation
Final	Uniform waxy, cohesive mass

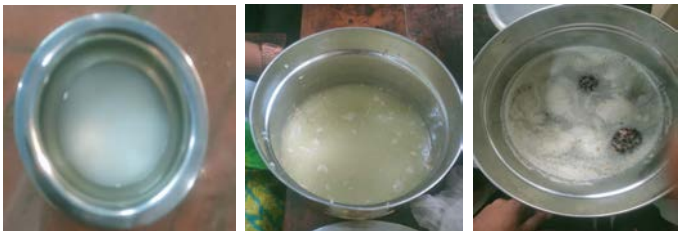

Figure 1: Purification of raw materials – (a) Gowri Sangu, (b) Sathi Lingam, (c) Thaipal (breast milk)

Figure 2: Powdering of purified materials

Figure 3: Wet grinding with breast milk

Figure 4: Bead formation

Figure 5: Oil heating stage

Figure 6: Fish-based processing

Figure 7: Solar drying of the finished beads

DISCUSSION

Pavazham Vaippu demonstrates the classical Siddha practice of transforming a raw formulation through sequential purification, biological trituration, thermal treatment, and stabilisation[1,4]. The use of breast milk as a grinding medium may facilitate homogenisation and support smooth mass formation, while sesame oil provides uniform heating during the fish-processing stage[4]. In classical Siddha pharmaceutics, biological media such as milk, plant juices, and animal fats are frequently used as levigating vehicles because they are believed to soften mineral particles, improve binding, and moderate the intensity of subsequent thermal processing[1,2].

The fish-based heating step reflects a traditional biological chamber concept, in which the fish's body cavity serves as a natural enclosure that allows slow, indirect, moisture-retentive heating of the beads immersed in sesame oil[4]. This is conceptually comparable to other Siddha and Ayurvedic "Puta" (enclosed calcination) methods, where an organic or earthen medium regulates the temperature and duration of heat exposure so the mineral substrate transforms gradually rather than abruptly[1,2]. The end-point, described classically as Saminthapatham, functions as an empirical marker that the traditional practitioner uses to judge completion of processing, analogous to the organoleptic and physical end-points (colour change, hardness, sound on striking) used elsewhere in Siddha calcination procedures[4,5].

From a pharmaceutical perspective, the procedure is notable for combining mineral substances (Gowri Sangu and Sathi Lingam) with organic media (breast milk and sesame oil) to achieve a stable end product[4]. This substitution method aligns with the broader Siddha principle of adapting formulations when natural raw materials are scarce, expensive, or ecologically restricted[3,4]. Comparable elemental and physicochemical work on natural versus synthetic Pavazham suggests that vaippu preparations can approximate some physical characteristics of the natural material, although compositional differences remain to be fully characterised[3].

In the context of conservation and sustainable traditional medicine practice, such classical substitutes are important because they reduce dependence on ecologically sensitive natural coral resources, which are subject to harvesting restrictions in most coastal regions[3,6]. The use of a well-defined Vaippu Murai also offers a template that can be extended to other endangered marine- and animal-origin Siddha drugs facing similar sourcing constraints[4,5].

The present paper is limited to literary documentation and process description; it does not include physicochemical or pharmacological validation. Therefore, the formulation should be viewed as a documented classical preparation that requires further analytical study, such as elemental analysis, X-ray diffraction, and comparative organoleptic evaluation against natural Pavazham, to establish composition, reproducibility, and potential therapeutic relevance[3]. Nevertheless, the paper provides a structured record of a rare Siddha pharmaceutical method that may be useful for future standardisation work and for training in classical Siddha pharmaceutics.

CONCLUSION

Synthetic Coral (Pavazham Vaippu) is a classical Siddha substitution formulation prepared through purification, trituration, bead formation, solar drying, fish-based heating, and final drying. The documented method preserves traditional pharmaceutical knowledge while offering a resource-conserving alternative to natural coral. This structured documentation may serve as a foundation for future analytical and pharmacological studies.

ACKNOWLEDGEMENTS

The authors acknowledge the classical Siddha textual sources that preserve this formulation knowledge and the institutions that support Siddha pharmaceutical documentation.

REFERENCES

1. Samuel DA. Marunthusei Eyallum Kalaium. 3rd ed. Chennai: Department of Indian Medicine and Homeopathy; 2016.
2. Thiyagarajan R. Gunapadam Thathu Jeeva Vaguppu. 9th ed. Chennai: Directorate of Indian Medicine and Homeopathy; 2016.
3. Raguraman N, Antony Duraichi R, Essakkypandian G. Comparative physicochemical and elemental evaluation of natural Pavazham (*Corallium rubrum*) and Vaippu Pavazham (synthetic coral) prepared as per Siddha literature. European Journal of Biomedical and Pharmaceutical Sciences. 2024. doi:10.5281/zenodo.18796019.
4. Agasthiyar. Agasthiyar Vadha Sowmiyam. 2nd ed. Chennai: Thamarai Publications; 2001.
5. Sambasivam Pillai TV. Siddha Medical Dictionary. Vol. 2, Part 2. Chennai: 2006.
6. Apte D. The Book of Indian Shells. Mumbai: Oxford University Press; 1998.
7. Mohanaraj T. Natchathira Kandam 1500. 2009.

Cite this article as:

Raguraman N and Sivamathi T. Literary documentation and pharmaceutical preparation of synthetic coral (Pavazham vaippu) in Siddha medicine. Int. J. Res. Ayurveda Pharm. 2026;17(4):96-98. doi: http://dx.doi.org/10.7897/2277-4343.174143

Source of support: Nil, Conflict of interest: None Declared