

Siddha Perspectives on Sirasthambavaadham in Pediatrics: Diagnosis, Management, and Integrative Approaches

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Abstract

Background

Siddha medicine addresses Sirasthambavaadham, a condition similar to Cerebral Palsy, which is defined as non-progressive neuromuscular disorder, by focusing on Vali-Iyyam (Vatham-kabam) imbalance. It's classified under 80 Vatha diseases and managed through internal medicines and external manipulations like Varmam and Thokkanam, aiming to enhance neuroplasticity, reduce spasticity, and promote functional independence.

Objective

The primary objective of this review is to provide an exhaustive analysis of Siddha perspectives on the diagnosis and management of Sirasthambavaadham in the pediatric population. It aims to elucidate the fundamental humoral theories (Mukkutram Iyal) and diagnostic tools (Envagai Thervu) unique to Siddha, while detailing the pharmacological and manual therapeutic interventions used to treat spastic conditions. Furthermore, this review evaluates clinical case evidences and standardized protocols to bridge traditional wisdom with contemporary evidence-based medicine, ultimately proposing a future research trajectory for integrative pediatric care.

Methods

This study utilizes a narrative and systematic review of classical Siddha literature, contemporary research articles, and documented clinical case studies. The primary literature includes Sage Yugi's "Yugi Vaithiya Chinthamani," "Agathiyar Irantaayiram," and "Mathalai Noi Maruthuvam," which serve as the foundational texts for identifying pediatric neuromotor disorders. Research data were sourced from academic databases including Google Scholar, PubMed, Semantic scholar and Scopus. Clinical observations from government institutions, were analyzed to identify trends in symptomology and treatment outcomes.

Results

Analysis of Siddha clinical frameworks reveals that Sirasthambavaadham involves a Vatha-Iyam imbalance, causing hypertonicity, restricted movement, excessive drooling, and speech delay. Clinical data from GSMC Palayamkottai shows a female predominance (56%) in the 5-10 year age group. A case study of a 9-year-old male with spastic quadriplegia demonstrated significant improvements with a 90-day intervention of Anda

Thylam and Varmam therapy, including a 49% reduction in spasticity, standing without support, independent stair climbing, word acquisition, and reduced fear and anxiety. Herbo-mineral preparations like Amukkara Chooranam and Muthu Parpam combined with Varmam therapy show efficacy in improving motor and cognitive outcomes.

Conclusion

Siddha medicine offers a holistic approach to Sirasthambavaadham, focusing on Vali (Vatham) humour and energy (Naadi) flow disruption. It uses diagnostic tools like Envagai Thervu and Naadi for personalized treatment, combining neuroprotective herbs (Anda Thylam, Amukkara Chooranam) with Varmam and Thokkanam therapies. This synergy improves spasticity, motor skills, speech, and quality of life, with clinical evidence showing functional recovery and behavioural stability. While not a cure for neural damage, Siddha offers significant rehabilitation potential, highlighting the need for standardization, safety profiling, and large-scale RCTs for global acceptance and integration into paediatric rehabilitation.

Keywords

Sirasthambavaadham, Cerebral Palsy, Siddha Medicine, Balavagadam, Envagai Thervu, Varmam Therapy, Anda Thylam, Mukkutram Iyal, Paediatrics, Neuroplasticity.

Introduction

Siddha medicine is a comprehensive clinical science that envisions life processes as an intricate balance between the individual microcosm and the universal macrocosm. Founded by 18 enlightened Siddhars—sages who achieved spiritual and physical perfection—the system posits that the human body is composed of five elements (Pancha Bhootham), three humors (Mukkutram), and six tastes (Aru Suvai). Health is maintained when these components exist in an optimal equilibrium, particularly the three humors: Vali (Vatha), Azhal (Pitha), and Iyam (Kaba), which are ideally balanced in a ratio of 1:2:4.

In the specialized realm of pediatric care, known as Kuzhanthai Maruthuvam, the Siddha system recognizes that the physical, mental, and psychological development of a child begins long before birth. The health of the parents at conception, the maternal diet during pregnancy, and the environment of the womb are all critical determinants of the child's future wellbeing. Sirasthambavaadham is understood as a profound disruption of this developmental trajectory. It arises when the Vatha humor is severely aggravated in the brain (Moolai), leading to "Siravatham" or neurological paralysis.

The condition is not merely a motor defect but a systemic failure of the Thasavayu (ten vital airs) to circulate effectively. Pranana, the vital air responsible for life and cognition, and Vyana, responsible for movement across all limbs, are specifically impaired in Sirasthambavaadham. Symptoms such as spasticity, scissoring gait, tremors, drooling of saliva, and speech impediments reflect the varied manifestations of these humoral and energy blockages. As modern medicine continues to seek effective interventions for the non-progressive brain damage seen in Cerebral Palsy, the Siddha system provides a time-tested protocol that addresses the "Vali disarrangement" through natural pharmacology and precise physical therapy.

Siddha Diagnosis

Siddha diagnosis, or Noi Naadal, is a sophisticated process that seeks to identify the root cause of an illness (Noi Mudhal Naadal) through a combination of sensory observation, patient history, and standardized clinical

parameters. The physician approaches each pediatric case as a unique presentation of humoral imbalance, utilizing the theories of Mukkutram and the practical application of Envagai Thervu.

Mukkutram Iyal (The Theory of Three Humors)

The foundation of Siddha physiology and pathology is the Mukkutram theory, which classifies all biological functions into three vital forces. Vali (Vatha) is formed by air and space, Azhal (Pitha) by fire, and Iyam (Kaba) by earth and water. In Sirasthambavaadham, the primary pathology is the derangement of Vali, which is responsible for the nervous system, muscle contraction, and all physical and mental movements.

Humor	Elemental Composition	Role in Health	Manifestation in Sirasthambavaadham
Vali (Vatham)	Air + Space	Movement, coordination, sensory perception	Hypertonia, spasticity, tremors, gait abnormalities
Azhal (Pitham)	Fire	Digestion, metabolism, intelligence, vision	Impaired cognitive development, altered heat regulation
Iyam (Kabam)	Earth + Water	Stability, structure, joint lubrication	Excessive salivation, respiratory congestion, speech delay

The diagnosis begins by identifying which humors have deviated from their physiological ratio. In pediatric neuromotor conditions, Vali typically increases first, subsequently causing a secondary rise in Azhal (leading to irritability or cognitive issues) and Iyam (leading to structural rigidity or excessive mucus).

Envagai Thervu (Eight-fold Examination)

The Envagai Thervu is the standard diagnostic toolkit prescribed by Sage Theraiyar, encompassing eight specific investigations that provide a holistic view of the child's health status.

- Naadi (Pulse):** The pulse is the most critical diagnostic tool, acting as a "pathfinder" for all ailments. In children, the pulse is typically felt at the radial artery on the wrist. A professional physician can identify the amplitude and movement patterns of Vata, Pitha, and Kaba. In Sirasthambavaadham, the pulse often exhibits "caterpillar-like" movements or a "cradle-like" oscillation, signaling severe Vatha aggravation.
- Sparism (Touch/Palpation):** This involves assessing skin temperature, moisture, and muscle tone. Hyper-reflexia and hypertonia (spasticity) are identified through tactile examination of the limbs and joints.
- Naa (Tongue):** The tongue's surface and color are indicative of internal humoral states. A black or blue tint suggests a Vatha disorder, while a white or pale coating suggests Iyam involvement. Deviation of the tongue or restricted movement is common in neurological paralysis.
- Niram (Color):** The physician observes the color of the skin, eyes, and nails. Darkish or blackish discoloration is a hallmark of Vali-related diseases.
- Mozhi (Speech):** Assessment of vocalization is vital in Sirasthambavaadham. The voice may be high-pitched (Pitha), low-pitched/hyporesonant (Iyam), or slurred and articulated poorly due to Vatha-induced paralysis of the speech apparatus.
- Vizhi (Eyes):** The eyes are examined for blemish, watery discharge, or muddy conjunctiva. Pupillary response and coordination are noted to assess cranial nerve involvement.
- Malam (Stools):** Stool examination provides clues to digestive fire (Agni) and humoral state. Blackish stools or hard "goat-like" pellets indicate a chronic Vali imbalance.
- Neer (Urine):** Analysis of the urine includes Neerkuri (color, smell, froth, and weight) and Neikkuri (the oil drop test).

Neikkuri and Neerkuri (Specialized Urine Analysis)

Neikkuri is a unique Siddha prognostic tool where a drop of gingelly oil is placed on the surface of the patient's urine specimen using a stalk of arugam grass (*Cynodon dactylon*). The behavior of the oil drop indicates the underlying pathology:

Oil Drop Pattern	Interpretation	Humor
Spreads like a snake	Rapid movement across the surface	Vali (Vatham)
Spreads like a ring	Circular expansion	Azhal (Pitham)
Stands like a pearl	Does not spread, stays as a bead	Iyam (Kabam)

In Sirasthambavaadham patients, the oil typically spreads like a snake, confirming the deep-seated Vatha derangement. Additionally, the color of the urine—straw yellow or reddish-yellow—provides further evidence of the Pitha-Vatha involvement in chronic cases.

Manikkadai Nool (Wrist Circummetric Sign)

Beyond the eight investigations, Siddha medicine utilizes Manikkadai Nool, a diagnostic technique involving the measurement of the patient's wrist circumference. The circumference is measured using an inelastic thread and then expressed in terms of the individual's finger breadth. This specific measurement is then compared with classical health charts to determine the patient's prognosis and the severity of the disease. This anthropometric method provides an objective way to track physical growth and recovery in children who may be unable to articulate their symptoms.

Siddha Management

The management of Sirasthambavaadham is a complex process that prioritizes the regulation of Vazhi and Thasavayu to restore motor and cognitive function. The treatment protocol is typically divided into internal pharmacotherapy and a comprehensive suite of external manipulative therapies.

Internal Pharmacotherapy

Siddha internal medicines for pediatric neuromotor disorders are designed to cross the blood-brain barrier (Majja Dhara Kala) and provide neuroprotection.

Anda Thylam: The Gold Standard for Siravatham

Anda Thylam, an oil prepared from the yellow yolk of boiled hen's eggs (Kozhi Muttaiyin Manjal Karu), is a cornerstone of management. It is traditionally used to address speech impediments and tremors.

Drug Feature	Details
Primary Ingredient	Egg Yolk oil
Dosing	2 drops applied to the tongue twice daily
Mechanism	Rich in lipids to nourish neural tissue and regulate Vali
Primary Indication	Speech delay, scissoring gait, angular salivation

Herbo-mineral Formulations

The use of mineral ashes (Parpams) and red inorganic powders (Chendurams) is unique to Siddha and is employed when herbal remedies alone are insufficient.

- **Amukkara Chooranam:** Made from *Withania somnifera*, it acts as a potent adaptogen and nerve stimulator, helping to reduce hypertonia and calm the child's nervous system.
- **Muthu Parpam:** Traditionally used to enhance brain development. Research suggests it contains nacre polysaccharides that protect against cognitive impairment.
- **Aya Chendhooram:** An iron-based formulation used to treat anemia (Pandu) which often accompanies chronic pediatric illness, improving overall vitality.
- **Brahminei:** A medicated ghee containing *Bacopa monnieri*, used specifically to encourage developmental milestones such as neck holding and independent sitting.

External Therapeutic Interventions

External therapies (Puramaruthuvam) are essential in Siddha to manage the mechanical aspects of spasticity and restore joint mobility.

Thokkanam (Physical Manipulation)

Thokkanam is an ancient massage and manipulation therapy designed specifically to alleviate Vatha-related rigidity. It improves muscle tone and strength through nine distinct types of manipulation.

Technique	Application in Sirasthambavaadham
Oleation (Abhyanga)	Massage with Sitramutti Thylam or Vidamutti Thylam to reduce hypertonicity.
Podithimirthal	Rubbing with medicinal powders like Kollu Podi (Horse gram) to stimulate nerves and circulation.
Nasiyam	Nasal administration of medicated oils to clear the channels leading to the brain and balance humors.
Ennaiooral (Sira Pootchu)	Application of medicated oil over the head to nourish the brain and reduce Kabha.

Ennai Ozhukku (Tharai)

Commonly known as Tharai, this procedure involves the continuous dripping of warm medicated oil in a steady stream onto the patient's forehead, specifically the "third eye" region. This process, lasting between 30 and 90 minutes, is highly effective at reducing anxiety, enhancing brain activity, and neutralizing Kabha-related imbalances.

Varmam Therapy and Life Energy Modulation

Varmam is the specialized Siddha science of vital energy points (Marma points). There are 108 identified Varmam points in the human body where life energy remains concentrated. In children with Sirasthambavaadham, the stimulation of these points can bypass neural blockages to trigger motor and cognitive responses.

Specific Varmam Points for Sirasthambavaadham

During therapy, a Varmam expert (Varmani) applies precise pressure to specific anatomical locations to address various symptoms of Cerebral Palsy.

Target Symptom	Varmam Points Stimulated
Scissoring Gait	Mudhichu-4 and Andakaalam
Speech Improvement	Kondaikolli, Pidarivarmam, and Ottuvarmam
Fear and Anxiety	Adappakalam
Energy and Vitality	Thumbikalam, Thosumugavarmam, Annakalam, and Kallidaikalam

A key technique used in these cases is **Thasavayu Thattal Murai**, a weekly manipulation method designed to regulate the flow of the ten vital airs. This holistic practice ensures that the 96 basic principles (Thathuvangal) of the body are synchronized, fostering the body's natural ability to self-heal.

Integrative Approaches and Clinical Outcomes

The effectiveness of Siddha management is increasingly being evaluated through standardized clinical scales used in modern pediatrics. This allows for a measurable comparison of traditional outcomes against modern rehabilitation benchmarks.

Clinical Assessment Scales

Physicians utilize several tools to track the progress of children undergoing Siddha therapy:

- **Modified Ashworth Scale (MAS):** Used to measure the intensity of spasticity. Case studies have shown up to a 49% improvement in muscle tone following Siddha interventions.
- **Gross Motor Function Classification System (GMFCS):** Levels I–V are used to differentiate children based on gross motor abilities.
- **MRC Muscle Power Scale:** Used to track improvements in limb strength.
- **Activities of Daily Living (ADL) Scale:** Measures the child's progress toward functional independence.

Future Perspective

The global shift toward evidence-based herbal medicine provides a unique opportunity for the integration of Siddha pediatrics into international healthcare. However, for this integration to be successful, several scientific and regulatory challenges must be addressed.

Conclusion

Siddha medicine offers a profound and sophisticated perspective on the management of Sirasthambavaadham in the pediatric population. By addressing the condition as a disarrangement of vital humors and life energy rather than a static anatomical lesion, Siddha provides a dynamic therapeutic pathway centered on neuro-restoration and energy modulation. The combination of neuroprotective internal pharmacotherapy, particularly the use of egg yolk-based Anda Thylam, with the precise application of Varmam and Thokkanam, has demonstrated significant efficacy in reducing spasticity and fostering independence.

As the global medical landscape moves toward a more integrative model of care, the Siddha system's emphasis on prevention, personalized diagnosis, and holistic healing represents a vital resource. While rigorous clinical

validation and drug standardization remain ongoing priorities, the documented successes in improving the quality of life for special children underscore the enduring relevance of this ancient science. By bridging the gap between traditional wisdom and modern scientific assessment, Siddha medicine can play a pivotal role in the future of pediatric neuro-rehabilitation.

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