



LITERATURE REVIEW ON SIDDHA MEDICINE MUTHU PARPAM FOR THE MANAGEMENT OF ALATHIDU SANNI – A DRUG REVIEW

M.Keerthana^{1*}, K.Vennila², K.Rajeswari³, Karthika Prakasan¹ & M.Meenakshi Sundaram⁴

^{1*}PG Scholar, Department of Kuzhandhai Maruthuvam, National Institute of Siddha, (Affiliated to The Tamil Nadu Dr.MGR University), Chennai, Tamil Nadu, India.

²Associate Professor, Department of Kuzhandhai Maruthuvam, National Institute of Siddha, (Affiliated to The Tamil Nadu Dr.MGR University), Chennai, Tamil Nadu, India.

³Assistant Professor, Department of Kuzhandhai Maruthuvam, National Institute of Siddha, (Affiliated to The Tamil Nadu Dr.MGR University), Chennai, Tamil Nadu, India.

⁴HOD, Department of Kuzhandhai Maruthuvam, National Institute of Siddha, (Affiliated to The Tamil Nadu Dr.MGR University), Chennai, Tamil Nadu, India.

Abstract : Siddha medicine is one of the traditional medical system, predominantly practiced in South India. It is based on maintaining balance among the three vital humors—*Vatham* (air), *Pitham* (fire), and *Iyyam* (water) and their imbalance results in diseases. Siddha therapeutic intervention is broadly classified into 32 internal medicines and 32 external therapies. *Parpam* is one of the 32 types of internal medicines in the Siddha system and is recognized for its high potency and long shelf life, often extending up to 100 years. It is traditionally prepared by triturating mineral or animal-origin substances with herbs, followed by a unique incineration process known as *Pudam*. *Muthu Parpam* is a herbomineral formulation commonly used for *Alathidu Sanni* in children⁽¹⁾.

Alathidu sanni is one among nine types of *Sanni*. *Alathidu sanni* was compared to Attention Deficit Hyperactive Disorder in children. The clinical features of *Alathidu sanni* were closely related with ADHD. ADHD is one of the most prevalent neurodevelopmental disorders in childhood and constitutes a significant chronic health condition among school-aged children. It is primarily characterized by persistent patterns of inattention, impulsivity, hyperactivity, impaired impulse regulation, reduced self-inhibitory control, and continuous motor restlessness. *Muthu parpam* has been indicated in the Siddha literature for a wide variety of diseases. This review article gives insight on the efficacy of *Muthu Parpam* for *Alathidu Sanni* based on review of various literatures and scientific studies.

Keywords: Siddha, *Muthu parpam*, *Alathidu Sanni*, Attention Deficit Hyperactive Disorder

INTRODUCTION:

Siddha medicine is one of the traditional medicinal systems in South India. It includes a comprehensive approach to health, including preventative, promotional, curative, rehabilitative, and rejuvenative tactics. Siddha medicine, which is based on balancing the three vital humors - *Vali* (air), *Azhal* (fire) and *Iyyam* (water), focuses on treating the underlying root cause of sickness while improving general health. Siddha therapeutic intervention is broadly classified into 32 internal and 32 external therapies. The Materia Medica of the Siddha system comprises internal medicines derived from three primary sources: plant-based (*Mooligai*), mineral-based (*Thathu*), and animal-based (*Jeevam*). *Muthu Parpam*, a herbo-mineral preparation, is one of the 32 types of internal

medicines described in classical Siddha literature and has long been used to treat pediatric neurobehavioral disorders⁽²⁾.

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most common neurodevelopmental diseases in childhood, distinguished by persistent patterns of inattention, hyperactivity, and impulsivity⁽³⁾. It has a substantial impact on academic performance, social interaction, and family dynamics. The global pooled prevalence of ADHD to be 8.0%. The disorder was nearly twice as prevalent in boys (~10%) compared to girls (~5%)⁽⁴⁾. Although ADHD has a complicated etiology that includes genetic, prenatal, and environmental effects, there is no definite therapy. Existing pharmaceutical treatments are largely symptom-focused and frequently accompanied with side effects. Given the limits of conventional therapy, there is an increasing interest in investigating traditional and alternative approaches to ADHD treatment. Siddha medicine, with its holistic approach, presents possible alternatives. The purpose of this review is to investigate the function of Muthu Parpam in the Siddha management of ADHD, with a focus on its traditional indications, preparation process, and applicability to neurodevelopmental disorders.

MATERIALS & METHODS:

This review is written by using various data bases like classical Siddha literature, Pubmed, Google Scholar, Web Of Science, Scopus etc.,

Ingredients:

1.Muthu (Pearl) - 1 palam (35 g)

2.Notchi leaves (*Vitex negundo* leaves) - 2 palam (70 g)

3.Nilapanai kizhanghu (Rhizome of *Curculigo orchioides*) - 2 palam (70 g)

Ingredients of Muthu parpam

S.No	Drug Name	Family	Botanical Name/Scientific name	English name	Part used
1	Muthu 	-	<i>Pinctada margaritifera</i>	Pearl	Calcined ash
2	Notchi 	Lamiaceae	<i>Vitex negundo</i>	Five-leaved chaste tree	Leaf
3	Nilapanai kizhanghu 	Hypoxidaceae	<i>Curculigo orchioides</i>	Black Musli	Rhizome

Method of preparing Muthu parpam: The purified Muthu (pearl) is first steeped in freshly extracted *Vitex negundo* leaf juice for two days. It is then carefully powdered with the same extract to create a homogeneous mixture. This formed material is transferred into an earthen vessel, sealed with another vessel using clay-coated fabric strips, and then exposed to Pudam (calcination) using twenty cow dung cakes. The technique is then repeated with *Curculigo orchoides* rhizome extract. The mixture is again burnt, this time with ten cow dung cakes. After final burning, the substance is cooled, carefully powdered, and stored in an airtight glass container for future therapeutic use.

Dosage: 30 to 60 mg twice a day

S.No	Indication	Adjuvant
1	Maalaikan (Night blindness)	Water
2	Vidaa kaichal(fever)	Milk
3	Sarvanga vali (epilepsy)	Nilathulasi juice (<i>Ocimum gratissimum</i>)
4	Thookathil undaagum brahmai (Confusion and perplexity of mind during the sleep)	Nirvidam (<i>Asparagus racemosus</i>)
5	Mika valiyai koduka kudiya vali (Epilepsy)	Notchi juice (<i>Vitex negundo</i>)
6	Vaivu	Agathi juice (<i>Sesbania grandiflora</i>)
7	Adhisaaram (diarrhoea)	Vilvam leaf juice (<i>Aegle marmelos</i>)
8	Mikka vaivu	Curd made from goat milk
9	Vaayukal	Sugarcane juice (<i>Saccharum officinarum</i>)
10	Vaanthi (Vomit)	Sugar
11	Utkaaichal (fever)	Milk
12	Moolam (Piles)	Butter

S.NO	Drug	Chemical constituents	Action	Uses
1	Muthu	- Calcium carbonate (aragonite) – ~95% of nacre - Matrix proteins – Nacrein, MSI60, Pearlin, Shematin - Amino acids – Glycine, alanine, aspartic acid - Sulfated polysaccharides - Trace minerals – Magnesium, strontium, zinc	- Osteogenic⁽⁸⁾ - Antioxidant⁽⁶⁾ - Anti-inflammatory⁽⁷⁾ - Wound healing⁽⁵⁾ - Antibacterial⁽⁹⁾ - Immunomodulatory⁽¹⁰⁾ - Anti-osteoporotic⁽⁸⁾	- Bone healing and regeneration - Wound healing - Improves vision and skin health - Natural source of Calcium supplementation
2	Notchi	- Flavonoids – casticin, luteolin, and vitexin - Volatile oils – sabinene, limonene, 1,8-cineole. - Iridoid glycosides - Steroids and triterpenoids - Alkaloids and phenolic compounds	- Anti-inflammatory⁽¹²⁾ - Analgesic⁽¹²⁾ - Antioxidant⁽¹⁵⁾ - Antibacterial⁽¹⁴⁾ - Antifungal⁽¹⁴⁾ - Antipyretic⁽¹⁴⁾ - Hepatoprotective⁽¹⁵⁾ - Anticonvulsant⁽¹³⁾ - Bronchodilator⁽¹¹⁾ - Wound-healing⁽¹⁴⁾	- Used in traditional systems for swelling, joint pain, and arthritis. - Applied topically or taken internally for pain relief. - Used for fever reduction - Used for treating wounds and skin infections. - Used for asthma, cough, and other respiratory conditions.
3	Nilapanai kizhanghu	Curculigoside A, B, C, D	Aphrodisiac⁽¹⁷⁾	Used in the management of

	• Saponins – Orchioside A and B, Cycloartane-type saponins • Alkaloids • Flavonoids & phenolic compounds – Kaempferol, Quercetin derivatives • Polysaccharides glucose, arabinose, and galactose • Tannins & Polyphenols	• Antioxidant⁽¹⁶⁾ • Hepatoprotective⁽¹⁶⁾ • Anti-inflammatory⁽¹⁸⁾ • Immunomodulatory⁽¹⁹⁾ • Antiosteoporosis⁽¹⁸⁾ • Antidiabetic⁽¹⁸⁾ • Neuroprotective⁽²⁰⁾ • Antimicrobial⁽¹⁸⁾	• male infertility • Enhances vitality, strength, and immunity. • Traditionally used to balance bodily functions under stress.
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DISCUSSION

Muthu (*Pinctada margaritifera*):

Pearl powder (nacre) derived from Pinctada margaritifera demonstrates multiple neuroprotective and nootropic effects in preclinical models that may indirectly inform ADHD interventions. In amyloid- β -induced cognitive impairment models, nacre extract restored memory and recognition functions by reducing oxidative stress, suppressing acetylcholinesterase activity, modulating CREB phosphorylation, and increasing BDNF expression^(21,22). A sulfated polysaccharide component of nacre further enhanced antioxidant enzyme levels, suppressed pro-inflammatory cytokines, and preserved neurotrophic factors such as BDNF and NGF in scopolamine-treated mice which could target ADHD symptoms such as hyperactivity and impulsivity⁽²³⁾.

Notchi (*Vitex negundo*)

Vitex negundo (five-leaved chaste tree), exhibits antioxidant, anti-inflammatory, and acetylcholinesterase inhibitory properties that may address core neurobiological mechanisms implicated in ADHD. In vitro studies demonstrate its ability to scavenge free radicals, inhibit acetylcholinesterase activity, and modulate immune signalling by suppressing pro-inflammatory cytokines (e.g., TNF- α , IL-6, IL-1 β), while promoting M2 macrophage polarization⁽²⁴⁾. These actions could potentially enhance cholinergic neurotransmission, reduce neuroinflammation, and provide neuroprotection relevant in the pathophysiology of ADHD⁽²⁵⁾.

Nilapanai kizhanghu (*Curculigo orchioides*)

Curculigo orchioides, exhibits multiple pharmacological properties that may be relevant in ADHD management⁽²⁶⁾. Curculigoside, its primary phenolic glycoside, has been shown to improve learning and memory in aged rats by reducing acetylcholinesterase activity and downregulating hippocampal BACE1 expression, thereby enhancing cholinergic neurotransmission⁽²⁷⁾. In vitro studies demonstrate its capacity to prevent NMDA-mediated excitotoxic neuronal death and oxidative stress⁽²⁸⁾. Animal studies also report restoration of SOD, CAT, and GSH levels along with reduction of lipid peroxidation in the brain⁽²⁹⁾. Additionally, anxiolytic effects observed in animal models suggest that *C. orchioides* may help address comorbid anxiety symptoms commonly observed in ADHD⁽³⁰⁾.

CONCLUSION:

Muthu Parpam is traditionally used in Siddha medicine due to its powerful neuro-calming and cognitive-enhancing properties. The formulation aids in the treatment of ADHD (Attention Deficit Hyperactivity Disorder) by targeting fundamental symptoms such as hyperactivity, inattention, and impulsivity. The primary element, muthu (pearl), has neuroprotective, anxiolytic, antioxidant, and memory-enhancing effects. Furthermore, the unique purifying and incineration methods involving

Vitex negundo and *Curculigo orchoides* enhance its therapeutic efficacy by providing anti-inflammatory and immunomodulatory properties. Together, these qualities contribute to increased attention span, emotional regulation, and overall mental well-being, supporting its traditional and scientific value in ADHD management.

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