

Bridging Tradition and Immunology: Siddha Remedies for Polymyalgia Rheumatica

Dr. M. Abhirami¹; Dr. Parthasarathy²; Dr. V. Manickam³;
Dr. Ravikumar⁴; Dr. K. Thangadurai⁵; Dr. J. Anbuselvi⁶

¹Siddha Physician, Sri Ramana Herbal Centre, India

²Professor, JSA Medical College for Siddha and Research Centre, India

³Siddha Physician, Sri Ramana Herbal Centre, India

⁴Professor, JSA Medical College for Siddha and Research Centre, India

⁵Principal & Professor, JSA Medical College for Siddha and Research Centre, India

⁶Professor, JSA Medical College for Siddha and Research Centre, India.

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Abstract: Polymyalgia Rheumatica (PMR) is a chronic inflammatory musculoskeletal disorder that is typically found in elderly individuals, with symptoms of bilateral pain, stiffness, and functional impairment. Siddha medicine, a traditional healing system that dates back to the ages, offers a comprehensive approach to comprehending and treating PMR by employing the concepts of Mukkutram (Vatham, Pitham, Kabam), Uyir thathukkal and Udal kattugal. PMR and Vatha suram and other Vatha noi described in Siddha texts are connected, with humoral imbalance being the primary reason. The aim of this paper is to explore Siddha herbal remedies for PMR, which include decoctions, powders, and medicinal confections like Nellikai Legiyam, Karuncheeragam Legiyam, and medicated oils such as Muthuchippi Thailam, Vatha Kesari Thailam, and Pinda Thailam. Anti-inflammatory, immunomodulatory, antioxidant, and rejuvenative properties are combined in these formulations to alleviate pain and stiffness. The digestive system can be rejuvenated, accumulated toxins can be cleansed, and muscle tissue strength can be improved. Siddha medicine offers a comprehensive, secure, and sustainable approach to managing PMR that incorporates internal medicines, external therapies, dietary regulations (Pathiyam), and lifestyle modifications. Further pharmacological validation and clinical research is necessary to confirm its importance in healthcare.

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I. INTRODUCTION

Polymyalgia Rheumatica (PMR), a chronic inflammatory musculoskeletal condition, is more likely to occur in those over the age of 50. Hip and shoulder girdle pain and stiffness, lethargy, tiredness, and difficulty moving about for daily duties are clinical symptoms that can be observed. The syndrome has distinctive traits such as morning stiffness that lasts more than an hour, low-grade fever, weight loss, and chronic pain that leads to sleep disturbances. Although PMR is described in modern rheumatology, its symptoms are very similar to those seen in Siddha disease patterns, especially those found in the Vatha Suram and Vatha Noi spectrum, which result from Vatha imbalance.

Health is explained in Siddha medicine by balancing three primary humours (Mukkutram) that include Vatha (movement and control), Pitham (heat and metabolism), and Kabam (structure and stability). The dynamic equilibrium of these hormones is necessary for health, and disease arises when it is disrupted [1]. As per Siddha perspectives, PMR is a disorder that is primarily Vatha-based, and aggravated Vatham is manifested through pain, stiffness, and restricted mobility. The systemic symptoms are further exacerbated by secondary disturbances of Pitham (inflammatory reactions) and Kabam (heaviness and sluggish circulation).

Siddha therapeutics prioritize addressing the root cause rather than just reducing symptoms. The purpose of treatment is to bring back humoral balance (Mukkutra iyalbhu), revitalize damaged tissues, enhance mobility, and decrease recurrence. In this holistic approach, it is necessary to regulate Agni (digestive fire), eliminate the toxins, apply dietary modifications (Pathiyam), and use external therapies to provide sustained relief. This holistic approach requires the regulation of Agni (digestive fire), elimination of Ama toxins, application of dietary modifications (Pathiyam), and external therapies to provide sustained relief.

This review suggests that Siddha herbal remedies are beneficial for conditions that resemble PMR. The text covers medicinal oils, legiyams, and traditional formulas including Amukkara Kudhineer, Seenthil Kudhineer, Nilavembu Kudhineer, Triphala Chooranam, and other items [2]. These formulations utilize herbs such as *Andrographis paniculata* and *Withania somnifera*, which have been scientifically validated to have anti-inflammatory and immunomodulatory properties, providing support for their therapeutic value in PMR-type conditions [1,2]. Through a traditional yet biologically relevant approach that is both traditional and biologically relevant, these Siddha formulations seek to address humoral imbalance, inflammation, and musculoskeletal dysfunction in a comprehensive manner.

II. SIDDHA PERSPECTIVE OF DISEASE (PATHOGENESIS)

Siddha medicine explains that diseases start and progress due to disturbances in Mukkutram (Vatham, Pitham, and Kabam). From this perspective, polymyalgia rheumatica (PMR) is primarily characterized by vatha dominance.

When Vatham is aggravated, it can lead to pain, stiffness, and limited movement in major joints and muscle groups, especially around the pelvis and shoulders. Deranged Vatham's dry, abrasive, and dynamic properties result in tissue tension, muscular tightness, and restricted movement.

Due to the underlying inflammatory process, both Vatham and Pitham may be involved in PMR in a secondary manner. When Pitham is disturbed, it causes low-grade fever, systemic pain, and a burning sensation. The aggravated Pitham's heat is responsible for accelerating tissue degeneration and contributing to persistent fatigue, which aligns with the evidence that highlights the role of inflammatory mediators. The inflammatory component can be linked to the findings of *Withania somnifera* leaf extracts that have significant anti-inflammatory activity in experimental models [3]. Kabam imbalance can lead to complications such as heaviness, muscle and joint oedema, and poor circulation. Siddha philosophy states that diseases are the consequence of disruptions in both the Uyir Thathukkal, which are three crucial life forces, and the Udal Kattugal, which are seven physical components. PMR results in systemic weakness and muscular debility because of

a reduction in plasma and essential nutrients, as well as muscle tissue dysfunction. Improper metabolism and toxins accumulation are caused by impaired Agni (digestive fire). Pain and stiffness are the result of these toxins restricting channels and aggravating Vatham. The Siddha's view of PMR places emphasis on the imbalance of humor, tissue derangement, and functional impairment.

➤ *Concept of Musculoskeletal Disorders in Siddha:*

Musculoskeletal problems that result from Vatham imbalance are extensively discussed in Siddha medicine. In classical literature, the common description of vatham illnesses is pain, stiffness, and limited movement. When Vatham's dryness, lightness, and mobility are elevated, they cause muscle and joint degeneration, leading to PMR-like symptoms. The symptoms of PMR include stiffness in the hip and shoulder, mobility issues, and weariness, which are similar to Siddha conditions like Vatha Suram and Vatha rogangal. Musculoskeletal issues are viewed by Siddha as systemically disrupted due to humour imbalance and body element derangement, not local ailments. Thus, the therapeutic approach deals with these abnormalities in a holistic manner [4]. Vathapitham pacification is emphasized by management because both humours make PMR painful and inflammatory. Detoxification is necessary in order to eliminate toxins that hinder circulation and cause stiffness. After detoxification, tissues are strengthened and recurrence is prevented by performing rejuvenating activities. The shared goals include limiting food intake (pathiyam), making lifestyle adjustments, using herbal formulations, using medicinal oils, and restoring musculoskeletal balance [5]. Siddha medicine believes PMR to be a Vatha noi, and it's recommended to have a comprehensive treatment that includes humoral correction, detoxification, and rejuvenation to provide lasting relief and functional health.

➤ *Siddha Herbal Remedies for PMR:*

The management of Vatha noi is aided by herbal remedies in Siddha medicine, which include musculoskeletal pain, stiffness, and functional weakness [6]. Polymyalgia Rheumatica (PMR), although a contemporary medical condition, has significant resemblances to the classical Siddha Vatha disorders. The therapeutic objective is to go beyond just relieving symptoms; it aims to fix humoral imbalance, eliminate accumulated toxins, and revitalize weakened tissues to prevent chronic deterioration [7].

Traditional Siddha formulas, which are used to treat chronic rheumatism, inflammatory fever, and degenerative wasting disorders, can also be useful in conditions similar to PMR. The anti-inflammatory, analgesic, antioxidant, and digestive-enhancing properties of these formulations are beneficial in regulating Agni, reducing Ama, pacifying aggravated Vatham, and bringing Mukkutram into balance.

The pharmacological actions and therapeutic significance of Siddha herbal remedies, including decoctions, powders,

medicated confections, and medicated oils, are discussed in the following sections for PMR.

➤ *Decoctions (Kudineer):*

Tinospora cordifolia (Seenthil) is an effective immunomodulatory and anti-inflammatory agent that can be used in Seenthil Kudineer. *T. cordifolia*'s downregulation of oxidative stress, macrophage function, and suppression of inflammatory markers involved in chronic rheumatic conditions is evidenced by experimental studies, which makes it highly relevant for reducing PMR symptoms[8,9].

The evidence demonstrates that it can decrease systemic inflammation and enhance musculoskeletal resilience, as indicated by its traditional Siddha description as a blood purifier and Vatha-Pitha balancer.

Andrographis paniculata (Nilavembu) is another important herb used in Nilavembu Kudineer, with its main purpose being to alleviate inflammation, antipyretic, and immunoregulatory effects. Clinical and experimental research has established that andrographolide, the primary bioactive compound, decreases fever, inhibits inflammatory cytokines, and stabilizes immune function. This is in line with its role in Siddha for addressing fever, systemic inflammation, and Pitha-Vatha imbalance.[10,11].

➤ *Powders (Chooranam):*

Powders, also known as Chooranam, have modest but long-lasting effects on digestion, metabolism, and tissue health, which is why they are often suggested for long-term Siddha treatment. Amukkara Chooranam, made from powdered *Withania somnifera* root, is more effective in rejuvenating and strengthening than the decoction [1]. In older PMR patients, it promotes energy, combats fatigue, and alleviates stiffness. Triphala Chooranam, a mixture of *Terminalia chebula*, *Terminalia bellirica*, and *Emblica officinalis*, has great adaptability according to both Siddha and Ayurvedic traditions. It is a top-rated detoxifier because of its cooling effect and flavor. Triphala is effective in promoting digestion, eliminating Ama and toxic metabolites, and preventing oxidative damage. PMR, which is characterized by systemic inflammation and metabolic abnormalities, is particularly benefitted by this medicine.[12]. Triphala must balance the three humours and create a digestive fire (Agni) in order to maintain vatham and tissue regeneration. *Solanum xanthocarpum* is utilized in the creation of Kandankathiri Chooranam, which is an efficient mixture. The bitter and astringent tastes of this herb can cause relaxation to Vatham, relieve musculoskeletal discomfort, and unclog physiological channels. The respiratory and circulatory systems are also bolstered, resulting in a decrease in chronic inflammation. By taking Kandankathiri Chooranam, a systematic remedy, tissue circulation and oxygenation can be improved, and pain in the PMR can be lessened. Over time, these powders have been shown to be effective in treating PMR by pacifying, cleansing, and nourishing Vatha.

➤ *Medicated Confections (Lehyam/Legiyam):*

Lehyam or Legiyam, or Siddha formulations, are semi-solid Siddha mixtures that are composed of herbal extracts, sweeteners, and lipid-based substances to promote skin revitalization and tissue nourishment. The formulation of Nellikai Lehyam, which utilizes *Emblica officinalis* (Indian gooseberry), is a crucial component in strengthening Oon (muscle tissue) and reviving systemic vitality. *Emblica officinalis* is known for its anti-inflammatory properties, which are largely due to its high vitamin-C content and diverse phytochemicals. These constituents are effective at neutralizing free radicals, protecting tissues from oxidative damage, and slowing musculoskeletal degeneration, which makes them beneficial in chronic inflammation conditions such as PMR [13,14].

Karuncheeragam Legiyam, which includes *Nigella sativa* and other Siddha herbs, aids digestion, enhances circulation, and aids in the elimination of metabolic toxins. *Nigella sativa* is widely known for its immunomodulatory, anti-inflammatory, antioxidant, and analgesic effects. Regulating Vatham, reducing systemic inflammatory load, and improving musculoskeletal comfort are all possible thanks to these properties [15]. In arthritis models, *Nigella sativa* oil's ability to lower oxidative stress, lower inflammatory mediators, and protect joint structures has been demonstrated, further demonstrating its potential for treating chronic Vatha disorders similar to PMR [16].

These medicated confections embody the Siddha principle of Kayakarpam, designed to revitalize tissues, restore humoral balance, enhance metabolic efficiency, and prevent progressive tissue deterioration.

➤ *External Therapies (Thailam / Medicated Oils)*

Siddha medicine emphasizes the therapeutic value of external remedies, such as Thailam, for musculoskeletal conditions, particularly those involving aggravated Vatham.

Muthuchippi Thailam, which contains pearl-based components and cooling herbs, has powerful anti-inflammatory and soothing effects. This is in line with recent findings that show that Muthu parpam (calcined pearl) has significant anti-inflammatory and healing properties that alleviate oedema and localized inflammatory reactions [17].

Vatha Kesari Thailam, a polyherbal oil that warms the body and has traditionally been used to enhance circulation, with herbs such as *Zingiber officinale*, *Piper nigrum*, and sesame oil, aids in relieving stiffness, alleviating muscle tightness, and enhancing mobility. Studies have demonstrated the effects of ginger on analgesia and muscle relaxation, piperine's anti-inflammatory and pain-relieving properties, and sesame oil's ability to reduce pain and improve joint function in musculoskeletal disorders [18-20].

Pinda Thailam, which has *Rubia cordifolia* and *Madhuca indica*, and it has cooling and anti-inflammatory effects, making

it suitable for conditions with burning sensations and severe stiffness, as confirmed by pharmacological research [21].

➤ *Pharmacological Basis of Siddha Herbs*

Herbs are used in Siddha medicine to alleviate symptoms and restore systemic imbalances, with a focus on their pharmacological benefits. Polymyalgia rheumatica (PMR) is a chronic inflammation condition that causes musculoskeletal discomfort and stiffness, and many Siddha medicines have anti-inflammatory properties. According to traditional Siddha texts, Terminalia chebula (Kadukkai), Withania somnifera (Amukkara), and Zingiber officinale (Chukku) are medicines that can reduce inflammation and restore joint health[22]. According to a recent pharmacological study, these herbs are also capable of fighting inflammation, antioxidants, and protecting musculoskeletal tissue[23]. Siddha herbs possess antioxidant activity as one of their primary PMR-fighting properties. Polyphenols and flavonoids are frequently used in Siddha remedies to scavenge free radicals caused by oxidative stress, which worsens inflammation and muscle exhaustion. The Emblica officinalis (Nellikai), which is a rejuvenating plant, enhances systemic vitality and fights oxidative damage. Antioxidant systems alleviate pain and fortify musculoskeletal tissues for long-term protection. Siddha intervention utilizes immunomodulation as the third pharmacological basis. The modulation of immunological responses and prevention of inflammatory cascades can be achieved by Tinospora cordifolia (Seenthil) and Piper longum (Thippili). This is beneficial because PMR is mediated by the immune system [24].

These herbs function as immunomodulators rather than suppressants, regulating pathological autoimmunity and balancing the host defense system. Siddha herbs are the ideal option for long-term chronic inflammatory illness treatment because of their distinctive qualities [25]. Siddha's explanation of plants' medicinal activity can be found in Agni, the digestive and metabolic fire, and Mukkutram, a blend of vatham, pitham, and Kabam. The main cause of PMR, which is predominantly Vatha-based, is stiffness, dryness, and issues with movement. Ushna veeriya herbs, which are hot, bitter, and astringent, improve digestion, metabolism, and tissue assimilation, while also restoring agni. Vatha is believed to be caused by toxic metabolites that have not been broken down, but Agni can decrease their levels. The healing of PMR's pathological root can be achieved through the balance of Siddha herbs with Agni and the three humours. Siddha pharmacology stresses the importance of Kayakarpam therapy, which is a rejuvenation method that enhances bone and joint strength and prevents aging. Rejuvenating herbs, including Aegle marmelos (Vilvam) and Asparagus racemosus (Thanneer Vittan Kizhangu), are utilized both internally and externally to support tissues, extend lifespan, and maintain musculoskeletal function [26]. These plants are effective in preventing recurrence and relieving symptoms in chronic, recurring disorders like PMR [27]. The Siddha pharmacological therapeutic method is a combination of antioxidant, anti-inflammatory, immunomodulatory, and rejuvenating properties.

III. DISCUSSION

The Siddha method, used for holistic treatment of Polymyalgia rheumatica, helps restore systemic vitality and humoral balance, which are the root causes of underlying problems[28]. Siddha treatment employs a wider range of therapies to cleanse, rectify Agni, restore humoral balance, and regenerate tissues, and reduce inflammation. PMR sufferers experience pain, stiffness, systemic fatigue, and prolonged debilitation. These symptoms are addressed fully with this comprehensive approach [29]. Siddha medicine combines both internal and external remedies. Polyherbal immunomodulatory and anti-inflammatory compositions can be used internally to reduce inflammation, restore digestion, and enhance tissue metabolism. The use of herbal fomentation and medicated oil massage (Thokkanam) has the potential to improve circulation, flexibility, and localized pain and stiffness [30]. By working together, these therapies can correct systemic imbalances and specific dysfunctions. This two-pronged method is superior to any one intervention in providing long-term and complete relief. Cleaning is necessary in the Siddha technique for chronic inflammatory illnesses. Doctors have the option of offering purifying therapies like pura valayam and Veeranam to eliminate built-up toxins and enhance the body's ability to respond to restorative treatments. According to Siddha medicine, eradicating illness is the first step towards achieving long-term health. This concept encompasses cleansing and nutrition. Siddha treatment emphasizes the importance of diet (Pathiyam) and lifestyle restrictions, particularly in situations dominated by Vatha. PMR patients should avoid dry, cold, and bitter foods that aggravate Vatha, and instead eat warm recipes that are easily digested and have unctuous flavor that nourish Agni and soothe Vatha. [31]. To achieve complete control, it is recommended to make lifestyle adjustments such as getting enough sleep, exercising moderately, and lowering stress. Siddha medicine suggests modifying food and lifestyle to enhance the patient's internal environment [32]. PMR management can be improved by siddha treatment that combines symptomatic relief, substantial systemic correction, humoral balance, and rejuvenation. Our holistic approach acknowledges that PMR is chronic and complicated, resulting in the need for multiple treatments.

IV. CONCLUSION

In summary, Siddha therapy is capable of treating polymyalgia rheumatica by addressing both its symptoms and causes. The Siddha theory's scope is demonstrated by the traditional application of Siddha herbs to regulate Mukkutram and correct Agni, and modern studies on their anti-inflammatory, antioxidant, immunomodulatory, and rejuvenative pharmacological bases provide scientifically relevant mechanisms to relieve systemic fatigue, stiffness, and pain. The combination of internal and external therapies, detoxification methods, diet (Pathiyam), and lifestyle management distinguishes this therapy from steroid-based

regimens. The musculoskeletal system can be protected from harm by combining anti-inflammatory herbs with Kayakarpan's regeneration qualities through herbal therapies. Siddha writings are based on sound theory and practice, but it requires more textual study, pharmacological validation, and well-documented clinical investigations to gain credibility based on evidence. The combination of conventional knowledge and cutting-edge scientific research would lead to the promotion of Siddha medicine as a global treatment for complex inflammatory disorders like PMR. Siddha's holistic approach balances the humours, rejuvenates the body, and regenerates the mind and spirit for lasting healthcare solutions.

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