ISSN 2456-3110
Vol 9 · Issue 12
December 2024

JAiMS
INTERNATIONAL

Journal of Ayurveda and Integrated Medical Sciences

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences

Maharshi Charaka
Ayurveda

Indexed

Journal of
Ayurveda and Integrated Medical Sciences
ISSN 2456-3110
REVIEW ARTICLE December 2024

The Transformative Potential of *Viddhaagnikarma* - Bridging Tradition and Innovation in Pain Relief

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ABSTRACT

Introduction: Chronic pain, particularly musculoskeletal pain, poses a global health challenge, contributing to disability and increasing healthcare costs. Conventional treatments like NSAIDs and opioids often fail to provide sustainable relief and come with risks of adverse effects. *Viddhaagnikarma*, an integrative Ayurvedic approach that combines *Viddha Karma* (puncturing) and *Agnikarma* (thermal cauterization), offers a novel method for chronic pain management by balancing Vata dosha and providing sustainable pain relief. **Methods:** This review synthesizes information from Ayurvedic texts and modern research databases (PubMed, Scopus, and AYUSH) to examine *Viddhaagnikarma's* theoretical foundation and application in pain management. Relevant data on related pain conditions and procedural details were collected to assess the technique's effectiveness and mechanisms. **Results:** *Viddhaagnikarma* employs both mechanical and thermal stimulation to alleviate pain through endorphin release, enhanced blood circulation, and tissue regeneration. This dual-action approach provides immediate and long-term relief for chronic pain conditions such as sciatica and osteoarthritis. Compared to acupuncture, *Viddhaagnikarma's* use of localized heat adds unique therapeutic benefits, including reduced inflammation and increased metabolic activity at the cellular level. **Discussion:** *Viddhaagnikarma* shows promise as a comprehensive pain management technique, engaging both physiological and neurological pain pathways. Its mechanisms align with modern pain modulation concepts, highlighting its relevance in chronic pain management. However, further research, particularly large-scale clinical trials, is essential to confirm its clinical efficacy and establish standardized protocols for its use.

Key words: *Agnikarma, Chronic Pain, Viddha Karma, Viddhaagnikarma.*

INTRODUCTION

Chronic pain is one of the most widespread and challenging global health issues, impacting between 15% and 30% of adults worldwide and contributing to substantial disability and healthcare burdens, particularly in the context of musculoskeletal disorders (MSDs) and neurodegenerative diseases.[1] In India, approximately 13% of the population suffers from chronic pain, with a higher incidence among women and the elderly.[2] This condition not only limits daily functioning - affecting essential activities such as walking and lifting - but also imposes severe economic costs, contributing to reduced productivity, work absenteeism, and healthcare expenditures. Although nonsteroidal anti-inflammatory drugs (NSAIDs) and opioids are common in conventional pain management, they come with risks of adverse effects and dependency, often proving inadequate as long-term solutions.[3] *Ayurveda*, the ancient Indian medical system, provides a holistic approach to pain management, focusing on balancing the *Vata Dosha*, which regulates neural and muscular functions.[4] Techniques such as *Viddhaagni Karma*, an innovative blend of *Viddha Karma* and *Agnikarma*, harness both physiological and neurological principles to offer immediate and lasting pain relief. By addressing the physical, psychological, and social aspects of pain,

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Submission Date: 08/11/2024 Accepted Date: 23/12/2024

Access this article online

Quick Response Code

Website: www.jaims.in

DOI: 10.21760/jaims.9.12.19

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Ayurveda complements modern treatments, filling gaps in accessibility, side-effect management, and sustainable care. This review explores *Viddhaagnikarma's* potential as a groundbreaking strategy for chronic pain management, underscoring *Ayurveda's* role in developing more integrative and effective frameworks for pain alleviation and care.

METHODOLOGY

Information Sources

Main *Ayurvedic* texts of *Susruta Samhita, Charaka Samhita, Astanga Hridaya Samhita, Bhava Prakasha, Sharangadara Samhita, Baishajjaya Ratnawali, Madhava Nidana*, *Chakkradatta* were reviewed for treatment modalities for pain, *Viddha Karma, Agnikarma*

Search Strategy

The search was done for treatment modalities bringing forward, including low back pain related such as, *Gridhrasi, Vata, Khalli, Raktavata, Siragata Vata, Urusthamba, Snayugata Vata, Dhatugata Vata, Viddha Karma, Agnikarma, Siravedha,* and *Raktamokshana.* PubMed, Scopus, Cochrane, AYUSH portal and Google Scholar were searched to access data. The keywords used for the search include *Viddha Karma*, *Agnikarma, Viddhaagnikarma,* Acupuncture, pain, *Shula*.

Selection Process

Relevant information related to Pain, *Viddha Karma* and *Agnikarma* were collected, recorded, and analysed.

RESULT

Literature Related to Pain in Ayurveda and Contemporary texts

In *Ayurvedic* literature, pain, often referred to as *Shula* or *Vedana*,[5] is primarily associated with an imbalance of the *Vata dosha*. *Vata*, which governs movement, sensation, and communication within the body, plays a critical role in the manifestation of pain. Any disruption in *Vata* can lead to symptoms such as stiffness, spasms, or sharp sensations, varying according to the affected site and nature of the disturbance (*Charaka Samhita, Sutrasthana* 17.80).[6] *Ayurveda* classifies pain based on various criteria, including the predominance of *Doshas*, the body system involved, and its chronology. Pain caused by *Vata* imbalance (*Vataja Shula*) is characterized by dryness, roughness, and coldness, often presenting as spasmodic or colicky discomfort. Pain driven by *Pitta Dosha* (*Pittaja Shula*) typically manifests as burning or sharp sensations with accompanying inflammation, while pain due to *Kapha Dosha* imbalance (*Kaphaja Shula*) is described as dull, heavy, or throbbing.[7]

The classification extends to the affected body systems, such as skeletal (*Asthi*), muscular (*Mamsa*), or neurological (*Majja*), as well as the temporal nature of the condition, whether acute (*Adhija*) or chronic (*Anadhija*). The pathophysiology of pain in Ayurveda is linked to disruptions in the body's microchannels (*Srotas*), which impair the flow of *Prana Vayu* (vital air) and lead to tissue dysfunction. Pain arises due to obstruction (*Avarana*)[8] or aggravation (*Prakopa*) of the *Doshas*, which further disrupt the body's equilibrium. Classical texts like the *Sushruta Samhita* emphasize the critical role of *Roga Marga* (disease pathways) in the propagation and manifestation of pain, highlighting its multifactorial etiology and systemic impacts.

Pain Pathway: Definition and Mechanisms

Pain is the primary symptom in most musculoskeletal disorders and is often the primary reason patients seek medical attention. It is commonly defined as "an unpleasant sensory and emotional experience, typically linked to actual or potential tissue injury." [9]

Pain is a complex sensory and emotional experience typically arising from actual or potential tissue damage, serving as a crucial protective mechanism. This multifaceted process involves a network of specialized neurons and pathways that transmit, process, and modulate nociceptive (pain-related) signals from the peripheral tissues to the central nervous system (CNS). Pain perception is not only physiological but also shaped by emotional, cognitive, and contextual factors, integrating both sensory and affective dimensions.

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Key Components of the Pain Pathway[10]

1. **Nociceptors and Primary Afferent Neurons:** At the pain pathway's entry point are nociceptors—sensory receptors responsive to noxious stimuli of thermal, mechanical, or chemical nature, located in peripheral tissues such as the skin, muscles, and organs. Nociceptive signals travel through primary afferent neurons, distinguished by two main types:

- **A-delta fibers:** Myelinated fibers that quickly transmit sharp, well-localized pain, allowing rapid reaction to acute stimuli.
- **C fibers:** Unmyelinated, slower-conducting fibers responsible for dull, throbbing, or aching sensations typically associated with prolonged pain.

2. **Spinal Cord Processing (Dorsal Horn):** Upon entering the spinal cord via the dorsal root, nociceptive signals synapse in the dorsal horn. Here, they undergo modulation by local interneurons, which can amplify or inhibit signal transmission, adding complexity to the pain experience. This modulation is a critical factor in determining pain perception intensity.
3. **Ascending Pathways to the CNS:** Nociceptive signals ascend to the brain via two primary tracts:

- **Spinothalamic Tract:** Conveys sharp pain and temperature information to the thalamus, a sensory relay centre essential for conscious pain perception.
- **Spinoreticular Tract:** Transmits signals to the reticular formation, influencing arousal, emotional responses, and awareness of pain.

4. **Thalamic Relay and Cortical Processing:** The thalamus processes nociceptive input and relays it to cortical areas for detailed processing:

- **Primary Somatosensory Cortex (S1):** Localizes pain and assesses intensity.
- **Anterior Cingulate Cortex (ACC):** Evaluates the emotional dimension of pain.
- **Insular Cortex:** Integrates sensory, emotional, and cognitive aspects of pain, contributing to an individual's overall pain experience.

5. **Descending Modulation Mechanisms:** The brain modulates pain perception through descending pathways, which can inhibit nociceptive transmission. The periaqueductal gray (PAG) in the midbrain communicates with medullary raphe nuclei, which project inhibitory signals back to the spinal cord. This descending pathway allows psychological and contextual factors to influence pain perception, illustrating the body's adaptive control over pain.

Pain Classification and Pathophysiology[11]

Pain is broadly categorized by its underlying mechanisms:

- **Nociceptive Pain:** Originates from tissue injury or inflammation, typically responsive to standard analgesics.
- **Neuropathic Pain:** Stems from nervous system dysfunction or injury, often manifesting as allodynia (pain from non-painful stimuli) or hyperalgesia (exaggerated pain response).
- **Psychogenic Pain:** Pain influenced by psychological factors, underlining the biopsychosocial model that includes biological, psychological, and social dimensions.

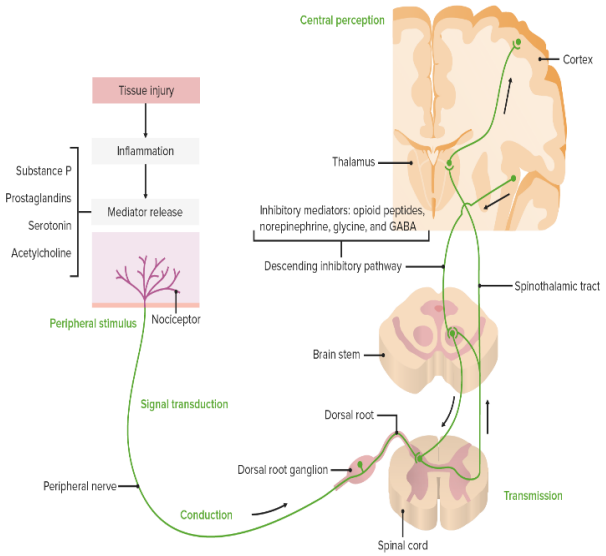

Figure 1: Pain Pathway

The pain pathway exemplifies an intricate system of peripheral and central mechanisms, underscoring the body's capability to detect, process, and modulate

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responses to noxious stimuli. A comprehensive understanding of this pathway is fundamental for advancing pain management and improving therapeutic outcomes for individuals with acute or chronic pain.[12]

Literature review of *Viddha Karma*

Overview of *Shastra Karma* Procedures

The ancient medical text, *Sushruta Samhita*, outlines eight principal types of surgical interventions, collectively known as *Shastra Karma*. These include: *Chedana* (excision), *Bhedana* (incision), *Lekhana* (scraping), *Vyadhana* (puncturing), *Eshana* (probing), *Aharana* (extraction), *Visravana* (draining), and *Seevana* (suturing).[13]

Derived from the Sanskrit root "vid," meaning “to pierce or penetrate,”[14] the term *Viddha* or *Vyadhana* reflects procedures aimed at puncturing or penetrating tissues. In the *Sushruta Samhita*, *Viddha Karma* is described as a method for creating a channel to release entrapped elements, such as air (*Vayu*) or blood, facilitating the drainage of fluids in conditions like *Jalodara* (ascites), *Mutravriddhi* (urinary retention), and pus in *Vidradhi* (abscess).[15]

Indications for *Viddha Karma*

The primary indication for *Viddha Karma* lies in addressing disorders caused by vitiated *Vata dosha*. When *Vata dosha* becomes aggravated and enters the blood (*Rakta*), it leads to a condition termed *Raktaavruta Vata*, where both *Rakta* and *Vata* are disturbed due to exposure to harmful etiological factors. Under normal circumstances, balanced *Vata* is crucial for physiological and even spiritual functions. However, when vitiated *Vayu* flows through the *Siras* (veins), it may trigger various *Vata Vyadhi* (*Vata*-related diseases), particularly affecting the musculoskeletal system. Pain, a hallmark of deranged *Vata*, is thus an optimal indication for *Viddha Karma*.[16]

Depth of *Viddha Karma*[17]

Acharya Sushruta has meticulously detailed the recommended depths for the *Vedhana* procedure, depending on the target tissue. *Viddha Karma* is specifically performed in muscular areas rather than directly puncturing veins and utilizes the *Vrihimukha Shastra*, a specialized instrument for this purpose:

- **Muscular regions:** *Yava Pramana* (4-6 mm), comparable to the depth of an insulin syringe.
- **Bony areas:** *Ardha Yava Matra* (6-10 mm).
- **Skin areas:** *Ardha Yava Matra* (2-4 mm).

Comparison of *Viddha Karma* with Acupuncture

In acupuncture, the body's vital energy - Chi is balanced by targeting specific pathways, such as the GB and BL meridians. Conversely, in *Viddha Karma*, obstructed *Vata Dosha* (an imbalance in *Vata*) is released by using hollow needles to restore its natural flow.[11]

Literature review of *Agnikarma*

Agnikarma, derived from Sanskrit terms for "heat" (*Agni*) and "procedure" (*Karma*), refers to a therapeutic technique using heat for pain management. Rooted in ancient Ayurveda, it is especially noted in the *Sushruta Samhita*, where it is recommended for a variety of conditions including tumors, hemorrhoids, fistulas, internal injuries, and joint disorders. This parasurgical approach is particularly valued for managing musculoskeletal pain conditions linked to aggravated *Vata Dosha*, the Ayurvedic element associated with pain and mobility issues.[18]

The mechanism of *Agnikarma* involves applying localized heat, which has qualities (*Gunas*) such as *Ushna* (warmth), *Tikshna* (penetrative), and *Vyavayi* (spreading), that counteract the cold, heavy attributes of *Vata* and *Kapha Doshas*. By inducing vasodilation and stimulating tissue metabolism, it alleviates pain and inflammation and aids in clearing accumulated *Doshas* at the afflicted sites.

Different tools and substances are used for *Agnikarma*, such as metallic rods (*Shalakas*) for muscle-related issues, and materials like *Pippali* (Piper longum) for skin applications.[19] This specificity ensures treatment is tailored to the tissue affected and the nature of the ailment. Studies have indicated that *Agnikarma* shows effectiveness where conventional medications may

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cause side effects with prolonged use, particularly in cases like osteoarthritis, sciatica, and chronic inflammatory conditions.[20]

Modern parallels in heat-based treatments, such as diathermy[21] electrocautery[22] and infrared therapy,[23] support *Agnikarma*'s efficacy in pain management. Research suggests that local heat application may enhance blood flow and trigger pain inhibition pathways, providing both immediate relief and long-term healing effects.

Integration of *Viddha* and *Agni*

Viddhagnikarma is a therapeutic Ayurvedic procedure combining two ancient techniques: *Viddha Karma* (puncture therapy) and *Agnikarma* (thermal cauterization). This dual-action approach leverages both mechanical and thermal stimulation to manage musculoskeletal and chronic pain, particularly in conditions like sciatica. Rooted in Ayurvedic wisdom, *Viddhagnikarma* shares some principles with acupuncture but distinguishes itself through the addition of heat, which enhances circulation, alleviates pain, and promotes tissue healing.[24]

Theoretical Basis of *Viddhagnikarma*

- ***Viddha Karma* (Puncture Therapy):** As outlined in *Sushruta Samhita*, *Viddha Karma* involves piercing specific anatomical sites to create a controlled stimulus that alleviates pain. By stimulating *Marma*[25] points (intersections of muscles, veins, ligaments, joints, and bones), this puncture technique triggers endorphin release, which reduces pain by blocking pain signals transmitted to the CNS. This effect aligns with modern neurophysiological concepts of pain modulation .[26]
- ***Agnikarma* (Thermal Cauterization):** *Agnikarma* uses heat to treat pain and inflammation at a local level, achieving results similar to monopolar electrocautery. By heating tissues around 45°C through a controlled low-frequency current (0.50 - 1.00 mHz), the technique causes localized dehydration and contraction of tissues, decreasing inflammation and enhancing blood flow. This thermal effect stimulates thermoreceptors, aiding in waste removal and accelerating healing at the cellular level.[27]

Mechanism of Action in *Viddhagnikarma*

The combined approach of *Viddhagnikarma* provides a unique synergy:

1. **Mechanical Stimulation through *Viddha Karma*:** The needle insertion distracts from primary pain and triggers endorphin release, creating immediate pain relief and modulating the body's pain response.
2. **Thermal Stimulation through *Agnikarma*:** Heat applied post-puncture reduces inflammation, increases circulation, and enhances tissue regeneration through thermoreceptor activation. This dual action effectively relieves pain by combining both physical and biochemical pathways.

Procedure steps in *Viddhagnikarma*[28]

Step 1: Preparation (*Purva Karma*)

1. Patient Assessment

- Evaluate the patient's overall health, pain severity, and specific condition (e.g., sciatica, osteoarthritis) to determine the most suitable sites for needle insertion and heat application.

2. Marking Tender Points

- Identify and mark points of maximal tenderness on the lower limb, corresponding to affected dermatomes. These points are selected to effectively target pain related to specific nerve pathways.

3. Site Preparation and Sterilization

- Thoroughly cleanse the marked area with an antiseptic solution, such as Betadine, using sterile gauze to ensure aseptic conditions and prevent infection.

4. Needle Selection

- Choose a sterile, hollow 26½-gauge needle. This needle type is selected to enable precise puncture and effective heat conduction for the procedure.

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5. Placement of Earthing Plate

- Position the earthing/cautery plate beneath the patient's thigh to complete the necessary electrical circuit for the cautery process.

This preparatory step ensures both safety and precision, establishing the foundation for a successful *Viddhagnikarma* procedure.

Figure 2: Materials required for *Viddhaagnikarma*

Step 2: Main Procedure (*Pradhana Karma*)

1. Needle Insertion

- Insert a sterile 261½-gauge surgical needle perpendicularly to a depth of approximately 0.5 cm at each marked tender point over the relevant dermatomes. This specific insertion depth targets and stimulates the desired points while minimizing unnecessary tissue trauma.

2. Heat Application through Electrical Stimulation

- Apply a controlled low-frequency electrical current to each needle, set between 0.50 mHz and 1 mHz, for a duration of 2-5 seconds. This frequency generates localized heat around the needle, providing the intended therapeutic effect at each puncture site.

3. Repeated Cycles

- Repeat the heating procedure 4-5 times at each site, with 30-60 seconds between each cycle. This interval allows tissues to recover and prevents excessive heat accumulation, optimizing the effectiveness and safety of the treatment.

These main procedural steps ensure targeted and effective application of *Viddhagnikarma* for pain relief.

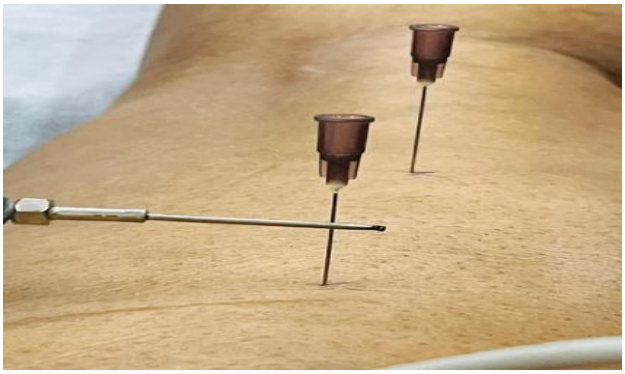

Figure 3: *Viddhaagnikarma* Procedure

Step 3: Post-Procedure (*Paschat Karma*)

1. Needle Removal

- Carefully remove each needle, checking for and ensuring there is no residual pain or bleeding at the puncture sites.

2. Sterilization of Treated Areas

- Clean the treated areas again with Betadine to maintain sterility and reduce the risk of infection.

3. Haemostasis and Dressing

- Confirm haemostasis (no active bleeding) at each site and apply a sterile dressing to protect the puncture sites and prevent infection.

4. Follow-up Sessions

- Schedule follow-up sessions once every 7 days for a total of 4 sessions. This weekly frequency allows for sustained pain relief and enhances the therapeutic effect over time.

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This structured approach in *Viddhagnikarma* ensures precision, safety, and efficacy, providing targeted pain relief with minimal risk.

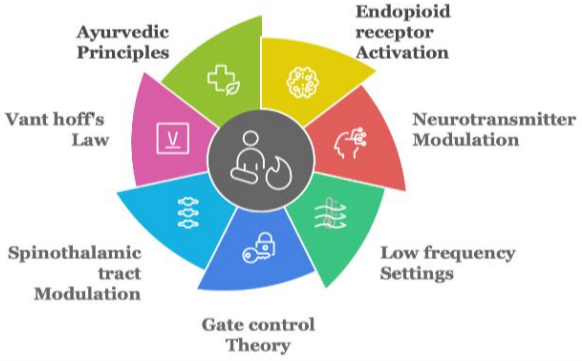

Figure 4: Probable Mechanism of Action of *Viddhaagnikarma*

Probable Mechanism of Action of *Viddhaagnikarma*

1. *Viddha Karma*

- Involves piercing or needling to clear blockages (*Aavruta Vata*) and restore energy balance, enhancing the flow of vital forces (*Srotoshodana*).[29]

2. *Agni Karma*

- Localized heat (using alternating current) is applied to pacify *Vata* and *Kapha Doshas,* targeting the root causes of pain.[30]

Pain Relief Mechanisms

1. Endorphin Activation

- Activates μ- and δ-opioid receptors, stimulating the release of endorphins for natural pain relief.[31]

2. Neurotransmitter Modulation:

- Increases serotonin and norepinephrine, which dampen pain signals, while enhancing inhibitory neurotransmitters (GABA, glycine) and reducing excitatory ones (glutamate), leading to reduced pain intensity.[31]

Anti-inflammatory Effect:

- Suppresses the activation of glial cells involved in amplifying chronic pain, reducing inflammation and related discomfort.[31]

Neuropathic Pain Management:

1. Low-frequency Settings (0-0.05 Hz):

- These frequencies stimulate cellular repair, providing long-lasting analgesic effects, particularly beneficial for neuropathic pain.[31]

2. Gate Control Theory:

- Heat stimulates large-diameter A-beta fibers to inhibit pain signals transmitted by smaller C and A-delta fibers, reducing overall pain perception.[32]

Impact on Spinothalamic Tract:

- The activation of A-beta fibers inhibits pain signals carried by smaller C and A-delta fibers through the **spinothalamic tract**, reducing pain perception by preventing these signals from reaching the brain.[33]

Thermal Effect:

- Localized heat (40-45°C) accelerates enzymatic activity and metabolic reactions, improving muscle relaxation and enhancing tissue repair, consistent with Vant Hoff's law of temperature-dependent chemical reactions.[34]

Overall Benefits:

- **Holistic Pain Management:** *Viddhagnikarma* provides immediate pain relief while addressing the root causes by restoring energy balance and promoting tissue recovery.

In conclusion, *Viddhagnikarma* offers a comprehensive, integrative approach to chronic pain management, combining Ayurvedic principles with modern scientific understanding to effectively relieve pain and promote tissue healing.

Comparisons to Modern Pain Management Techniques

Viddhagnikarma bears similarities to acupuncture but distinguishes itself with the addition of thermal cauterization. The combination of puncture and heat broadens its therapeutic effects, providing both mechanical and thermal interventions in one session. This dual approach also enhances circulation, reduces inflammation, and stimulates regenerative processes,

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making it effective in managing chronic pain conditions such as sciatica, osteoarthritis, and neuralgic pain.[29]

Discussion

Chronic musculoskeletal pain remains a significant and complex challenge in modern healthcare. Affecting both individual's quality of life and the broader economy through lost productivity and increased healthcare costs, this persistent issue highlights the limitations of conventional pain management strategies, such as NSAIDs and opioids, which often lack long-term efficacy and come with adverse effects, including dependency and gastrointestinal complications.[1] These limitations emphasize the need for alternative approaches that prioritize both efficacy and safety, especially in managing chronic pain where pharmacological options may be less effective or suitable.

Ayurveda, the traditional Indian system of medicine, offers a unique alternative through the technique of *Viddhagnikarma*, which combines two established therapies - *Viddha Karma* (puncture therapy) and *Agnikarma* (thermal cauterization). *Viddhagnikarma* addresses pain through a dual-action mechanism: mechanical stimulation via needle puncture and thermal application via cauterization. This approach taps into both physiological and neurochemical pain pathways, presenting a holistic solution that potentially mitigates pain while promoting tissue repair and regeneration. By incorporating puncture to stimulate endorphin release[31] and applying localized heat to enhance circulation,[34] *Viddhagnikarma* promotes cellular healing,[31] which distinguishes it from standard pharmacological treatments that primarily target symptom alleviation.

The literature highlights *Viddhagnikarma's* potential to relieve pain in conditions such as sciatica, osteoarthritis, and other *Vata*-dominant disorders. Although deeply rooted in *Ayurvedic* principles, its mechanisms of action resonate with modern neurophysiological understandings of pain modulation. For example, the application of heat in *Viddhagnikarma* has been shown to activate opioid receptors (specifically μ- and δ-opioid receptors), facilitating endorphin release for natural analgesia. Furthermore, it enhances the action of neurotransmitters like serotonin and norepinephrine, which play a significant role in the modulation of pain pathways, thus establishing *Viddhagnikarma* as a scientifically relevant and integrative approach to pain management.

The use of low-frequency oscillations (0-0.05 Hz)[28] within *Viddhagnikarma* is particularly beneficial in managing neuropathic pain, as it provides sustained analgesic effects and aids cellular repair.[31] The low-frequency settings induce a biophysical effect on cellular cytoplasm, enhancing the technique's potency in neuropathic pain management.[31] Additionally, *Viddhagnikarma's* approach aligns with the gate control theory, which posits that activating large-diameter A-beta fibers through heat inhibits the transmission of pain signals from smaller C and A-delta fibers, effectively reducing pain perception.[32]

The therapeutic benefits of *Viddhagnikarma* extend beyond immediate relief. By improving local circulation[34] and promoting tissue regeneration, this technique supports long-term healing, which may reduce the recurrence of chronic pain symptoms and decrease reliance on pharmacological interventions. Furthermore, its capacity to improve circulation, reduce inflammation,[31] and stimulate endogenous healing processes makes it a particularly compelling option for individuals with chronic musculoskeletal disorders, who often face limited options with conventional treatment approaches.

Despite the promising potential of *Viddhagnikarma*, further research is warranted to validate its clinical efficacy and safety. Large-scale, controlled clinical trials across diverse populations are essential for establishing standardized protocols that ensure consistency and reliability in practice. Comparative studies with other pain management modalities, such as acupuncture and electrotherapy, could also elucidate the specific benefits of *Viddhagnikarma*, underscoring its unique contributions to modern pain management strategies.

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Conclusion

Viddhagnikarma presents an innovative and integrative approach to chronic pain management by merging ancient Ayurvedic practices with modern concepts of neurophysiology and pain modulation. By combining mechanical stimulation through *Viddha Karma* and thermal stimulation through *Agnikarma*, it offers a holistic treatment for chronic musculoskeletal pain, particularly for conditions like sciatica and osteoarthritis. This dual-action mechanism not only provides immediate relief but also supports long-term healing, addressing both the physiological and neurological aspects of chronic pain.

Preliminary evidence and theoretical frameworks support *Viddhagnikarma's* efficacy, suggesting that it could serve as a valuable complement or alternative to conventional pain management methods, especially for individuals with inadequate responses to traditional therapies or those who suffer from long-term pain conditions. However, to fully realize *Viddhagnikarma's* potential, further rigorous clinical research is essential. Standardized protocols and comparative studies with contemporary pain management techniques could firmly establish *Viddhagnikarma's* place within mainstream pain management, offering a safe, effective, and sustainable solution for chronic pain sufferers.

Through its multi-dimensional approach and emphasis on promoting endogenous healing, *Viddhagnikarma* stands poised to contribute significantly to both modern and traditional frameworks of pain management, enhancing the quality of life for those with chronic musculoskeletal pain.

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How to cite this article: Afra Eiram, Muralidhara N, KM Sweta. The Transformative Potential of Viddhaagnikarma - Bridging Tradition and Innovation in Pain Relief. J Ayurveda Integr Med Sci 2024;12:157-166. http://dx.doi.org/10.21760/jaims.9.12.19

Source of Support: Nil, **Conflict of Interest:** None declared.

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