



Review Article

MIGRAINE AND AYURVEDA: A COMPREHENSIVE REVIEW OF TRADITIONAL CONCEPTS AND CLINICAL APPLICATIONS

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ABSTRACT

Migraine, a prevalent neurovascular disorder, affects over 1.1 billion individuals globally, contributing significantly to disability and economic burden. Conventional treatments often provide incomplete relief and carry risks of adverse effects, prompting exploration of integrative approaches. Ayurveda, an ancient Indian medical system, conceptualizes migraine as *Ardhavabhedaka* and *Amlapitta*, emphasizing *Tridoshic* imbalances and gut-brain interactions. This review synthesizes Ayurvedic principles with contemporary neuroscientific evidence to evaluate the efficacy, mechanisms, and safety of Ayurvedic interventions, including detoxification therapies, specialized cranial treatments, herbo-mineral formulations, and dietary-lifestyle modifications. Clinical studies demonstrate significant reductions in headache frequency and severity, with minimal adverse effects, highlighting Ayurveda's potential as a holistic, patient-centered approach. Future research directions include exploratory studies on underlying physiological mechanisms studies and standardized protocols to integrate Ayurveda into mainstream migraine management.

INTRODUCTION

Migraine is a prevalent and debilitating neurological disorder characterized by recurrent episodes of moderate to severe unilateral headache, often accompanied by nausea, vomiting, photophobia, and phonophobia [1]. As the third most common disease globally, it affects over one billion individuals worldwide, with a prevalence of 14% in the general population and a higher incidence among women [2]. Chronic migraine, defined as headaches occurring on 15 or more days per month for at least three months, impacts 1–2% of the population, contributing significantly to global disability [3]. Beyond its physical toll, migraine imposes substantial economic burdens through direct healthcare costs and indirect losses from reduced productivity and absenteeism [4].

The pathophysiology of migraine involves complex neurovascular mechanisms, including cortical spreading depression, trigeminovascular activation, and altered central pain processing, modulated by genetic and environmental factors [5]. Untreated or poorly managed migraine may progress to chronic forms, increasing the risk of comorbidities such as stroke, epilepsy, and depression [6]. Conventional treatments, including acute analgesics and prophylactic medications, often provide incomplete relief, are associated with adverse effects, and face challenges like medication overuse headaches and treatment resistance [7]. These limitations underscore the need for novel, integrative therapeutic approaches to address the multifaceted nature of migraine. This review aims to systematically evaluate Ayurvedic interventions for migraine in terms of efficacy, safety, and mechanism.

METHODOLOGY

This article follows a narrative review approach to synthesize classical Ayurvedic concepts and contemporary biomedical evidence related to migraine management. Literature was collected from traditional Ayurvedic texts such as *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and other

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Samhitas, along with contemporary commentaries. In parallel, electronic databases including PubMed, Google Scholar, AYUSH Research Portal, and Scopus were searched using keywords such as “*Migraine*,” “*Ardhavabhedaka*,” “*Amlapitta*,” “*Shirodhara*,” “*Nasya*,” and “*Ayurveda*.” Clinical trials, observational studies, and relevant review articles published in English from 2000 to 2025 were included. Emphasis was placed on studies evaluating Ayurvedic therapies' efficacy, safety, and proposed mechanisms. Data were qualitatively analysed to identify recurring therapeutic patterns and conceptual parallels with modern pathophysiology.

Migraine in Ayurveda

In Ayurveda, migraine closely aligns with *Ardhavabhedaka*, a condition described in classical texts such as *Charaka Samhita* and *Sushruta Samhita*, and *Amlapitta*, a disorder linked to *Pitta dosha* imbalance and systemic toxin accumulation. This section explores the etiological, pathophysiological, and symptomatic parallels between migraine, *Ardhavabhedaka*, and *Amlapitta*, emphasizing Ayurveda's integrative approach to their management.

Migraine and Ardhavabhedaka

• Causative Factors (*Nidana*)

The etiology of *Ardhavabhedaka* in Ayurveda includes lifestyle and environmental triggers that mirror those of migraine. Key factors include suppression of natural urges (*Vegadharana*), excessive daytime sleep (*Divaswapana*), nocturnal wakefulness (*Ratrijagarana*), alcohol consumption (*Mada*), loud speech (*Uccha Bhashana*), and exposure to cold (*Avashyaya*). These disrupt the balance of *Vata*, *Pitta*, and *Kapha doshas*, particularly affecting the head (*Shirah*), leading to unilateral, intense pain [8]. These triggers align closely with modern migraine precipitants, such as stress, bright lights, caffeine, and alcohol, highlighting a shared etiological framework [9].

• Pathophysiology (*Samprapti*)

The pathophysiology of *Ardhavabhedaka* involves a *Tridoshic* imbalance, predominantly *Vata* and *Kapha*, affecting the *Rasa-Raktavaha Srotas* (circulatory channels). This leads to channel obstruction (*Sanga*) and abnormal *Dosha* movement (*Vimargagamana*), originating in the digestive system (*Amashaya*) and manifesting in the head (*Adhithana*)^[10]. Similarly, migraine involves neurovascular dysregulation triggered by stressors, with cortical spreading depression and trigemino-vascular activation contributing to episodic pain^[11]. Both conditions reflect impaired digestive (*Jatharagni Mandya*) and blood tissue metabolism (*Raktadhatvagni Mandya*), underscoring the gut-brain axis in their pathogenesis.

• Symptoms (*Rupa*)

Ardhavabhedaka is characterized by severe, unilateral pain in the head, affecting regions such as the neck, eyebrows, ears, eyes, temples, and forehead. Described as cutting or piercing, the pain is often accompanied by giddiness and recurs intermittently, every 10 to 15 days [8,12]. These symptoms parallel migraine's unilateral, pulsating headaches, nausea, photophobia, and phonophobia, indicating a close clinical correlation.

Migraine and Amlapitta

Migraine also correlates with *Amlapitta*, a condition resulting from *Pitta dosha* aggravation and *Ama* (toxin) accumulation, primarily due to dietary indiscretions (e.g., spicy, acidic, or heavy foods) and irregular lifestyles. Symptoms of *Amlapitta*, including dizziness (*Bhrama*), headache (*Shiroruja*), nausea (*Praseka*), vomiting (*Chardi*), and anorexia (*Aruchi*), closely resemble migraine's diagnostic criteria [13]. The gastrointestinal neurological interplay in *Amlapitta* reflects migraine's gut-brain axis, where digestive disturbances contribute to systemic and neurological symptoms.

Management of Ardhavabhedaka and Amlapitta (Migraine)

Ayurvedic management of *Ardhavabhedaka* and *Amlapitta* employs a multi-modal approach to restore the imbalance of *Doshas* and address root causes. Localized therapies, such as *Nasya* (nasal administration of medicated oils), *Shirodhara* (continuous oil streaming), *Shirovasti* (oil retention), *Shiroabhyanga* (head massage), and *Shirolepa* (herbal paste application), target cranial and neurological pathways. Systemic treatments include oral formulations (e.g., *Churna*, *Kwatha*, *Vati*, *Rasa*) with *Vata-Pitta* pacifying and blood purifying properties, effectively reducing inflammation and metabolic imbalances. These interventions contrast with conventional migraine treatments, which often yield incomplete relief and adverse effects, highlighting Ayurveda's potential for safer, holistic management.

Detoxification Therapies (*Shodhana Karma*)

Shodhana Karma, or purification, is a cornerstone of Ayurvedic migraine management, aimed at eliminating accumulated toxins (*Ama*) and restoring *Doshic* balance [14]. Key modalities include:

• Gentle Purgation (*Mridu Virechana*)

Mridu Virechana, or mild purgation therapy, is especially recommended in *Vata-Pitta* dominant migraine cases, where metabolic imbalances and gastrointestinal disturbances are contributing factors^[8]. This therapeutic approach is preceded by preparatory procedures such as *Snehana* (internal oleation) and *Swedana* (steam therapy), which

mobilize accumulated *Doshas* toward the gastrointestinal tract, thereby enhancing the effectiveness of purgation. Herbal formulations like *Triphala churna*, *Avipattikara churna*, and *Yastimadhu* are commonly used due to their purgative, anti-inflammatory, and hepatoprotective properties. Administered in the early morning on an empty stomach, *Mridu Virechana* facilitates the gentle elimination of aggravated *Pitta* and *Vata doshas* through the lower gastrointestinal tract. This process aids in reducing systemic inflammation, clearing metabolic toxins (*Ama*), improving liver function, and restoring gut-brain axis homeostasis, all of which are essential in modulating the underlying pathophysiology of migraine [15,16].

- **Nasal Therapy (*Nasya Karma*)**

Nasya Karma, a key therapeutic modality in Ayurveda, involves the instillation of medicated oils into the nasal passages to exert localized and systemic effects through the olfactory and trigeminal pathways. This therapy directly targets the central nervous system via the richly innervated nasal mucosa, facilitating access to the brain and cranial structures. *Nasya* is classified into three functional types: *Virechana Nasya* (cleansing), *Brihana Nasya* (nourishing), and *Shamana Nasya* (pacifying), each selected based on the individual's *Doshic* imbalance [17]. Medicated oils such as *Shadbindu Taila* [18] and *Anu Taila* [17] are commonly used to correct *Vata-Kapha* and *Pitta* disorders, respectively, and are particularly effective in chronic conditions associated with sinus congestion, headaches, and neurological disturbances. *Nasya Karma* not only stimulates cranial nerves and improves cerebral circulation but also enhances sinus drainage, reduces inflammation, and clears blockages in the *Urdhvajatru* region (head and neck). Its multifaceted action supports *Doshic* rebalancing, neurovascular modulation, and upper respiratory detoxification, making it an essential component in the integrative management of migraine and related disorders [19,20].

- **Medicated Enema (*Basti Karma*)**

Basti Karma [8], a cornerstone therapy in Ayurvedic medicine, is particularly effective for managing migraine due to its potent *Vata*-pacifying action [21]. As the colon is considered the primary site of *Vata dosha*, rectal administration of medicated substances offers a direct and systemic means of rebalancing *Vata* [22]. *Basti* is typically administered in two forms: *Niruha Basti*, a decoction-based enema for detoxification, and *Anuvasana Basti*, an oil-based enema for nourishment [23]. Formulations such as *Dashmoola Taila* and *Bala Taila* are commonly employed to achieve both cleansing and regenerative

effects. When administered over a structured course of 8–16 days, *Basti* therapy not only facilitates the elimination of accumulated toxins but also promotes neurological stability by balancing *Apana Vata* in the lower abdomen [24]. This, in turn, helps regulate *Prana Vata*, which governs brain and head functions, thereby alleviating migraine symptoms, calming the nervous system, and reducing the frequency and intensity of headache episodes [25]. The dual detoxifying and nutritive actions of *Basti* make it a highly integrative and systemic approach in Ayurvedic migraine management.

- **Specialized Head Therapies**

Ayurvedic head therapies target the cranial region, a critical site for migraine pathology, to reduce neuroinflammation and promote relaxation.

- **Oil Retention Therapy (*Shirovasti*)**

Shirovasti [8] is a specialized Ayurvedic therapy that involves the retention of warm medicated oils [26] such as *Bala Taila* or *Mahamasha Taila* on the scalp within a specially designed leather or synthetic cap for a prescribed duration. This method allows sustained exposure of the cranial region to therapeutic oils, facilitating deep transdermal absorption through hair follicles, sweat glands, and cranial sutures. The therapy exerts a direct calming effect on the central nervous system, nourishes cranial nerves, and modulates neurotransmitter activity particularly serotonin thereby alleviating neurovascular disturbances commonly implicated in chronic migraine. Additionally, *Shirovasti* significantly reduces neuroinflammation and *Vata* aggravation in the head region, promoting mental clarity, improved sleep, and long-term relief from headache episodes. Its synergistic action on both structural and functional neural components makes it an effective intervention for refractory or stress-associated migraine.

- **Herbal Paste Application (*Shirolepa*)**

Shirolepa [27] is an external Ayurvedic therapy that involves the application of a cooling herbal paste typically composed of ingredients like Sandalwood, *Brahmi*, and *Jatamansi* to the forehead for 30 to 60 minutes. This treatment is particularly effective in *Pitta*-dominant migraine and those associated with stress, heat intolerance, or mental agitation. The paste is absorbed through the skin, delivering anti-inflammatory, anxiolytic, and neuroprotective effects at the local and systemic levels. By reducing local thermal load and calming peripheral nerve endings, *Shirolepa* helps to pacify aggravated *Pitta dosha*, decrease neurovascular inflammation, and regulate stress-induced triggers. Its soothing action on the frontal cortex region contributes to enhanced cognitive

relaxation, reduced headache intensity, and overall neurological balance [28].

- **Oil Streaming Therapy (*Shirodhara*)**

Shirodhara is a deeply calming Ayurvedic therapy wherein a continuous stream of medicated liquid [26] such as *Ksheeradhara* (medicated milk) for *Pitta* [29] or *Takradhara* (medicated buttermilk) for *Vata* [27] is poured rhythmically over the forehead, specifically targeting the region of the *Ajna Chakra* and frontal lobe. This gentle, repetitive stimulation activates the hypothalamus-pituitary-adrenal (HPA) axis, promoting parasympathetic dominance and reducing stress hormone levels, particularly cortisol [30]. The therapy induces profound neuro-sedative effects, enhances cerebral circulation, and balances key functional subtypes *Prana Vata*, responsible for cranial nerve regulation, and *Sadhaka Pitta*, which governs neurocognitive and emotional processing. Clinical studies support *Shirodhara's* efficacy in alleviating tension-type headaches, stress-induced migraine, insomnia, and anxiety, highlighting its neurovascular and psychoneuroimmunological benefits in migraine pathophysiology [31,32].

- **Head massage (*Shiro-abhyanga*)**

Shiro-Abhyanga, or Ayurvedic head massage with medicated oils, is a scientifically grounded therapeutic modality for managing migraine, particularly those associated with *Vata-Pitta* imbalances [33]. This therapy involves the systematic application of oils such as *Dashmool taila* [18], *Brahmi Taila* [34], *Ksheerabala Taila* [35], or *Mahamasha Taila* [36] to the scalp using specific massage techniques that stimulate *Marma* points and promote neurovascular relaxation. By enhancing blood and lymphatic circulation, *Shiro-Abhyanga* decongests cranial channels and facilitates the elimination of metabolic toxins. The rhythmic stimulation of scalp tissues helps regulate neurotransmitter activity, reduce cortisol levels, and activate the parasympathetic nervous system, thereby mitigating key migraine triggers such as stress, tension, and sensory hypersensitivity. Moreover, by harmonizing *Prana Vata* and *Sadhaka Pitta* through direct action on the head region, this therapy contributes to improved sleep, mental clarity, and reduced frequency and intensity of headaches, offering a holistic and integrative approach to migraine prevention and management [31].

- **Poultice therapy (*Upnaha*)**

Upnaha, or poultice therapy, is a traditional Ayurvedic intervention recommended by Acharya Charaka and Acharya Bhela for managing *Vata*-dominant headaches such as *Ardhavabhedaka*. This therapy involves the external application of a warm medicinal paste, typically prepared using ingredients

like *Dashamoola* (a group of ten anti-inflammatory herbs), cotton seeds, wheat, mustard, and barley, all decocted in hot milk. The prepared poultice is applied to the head and secured with a cloth covering to retain warmth and ensure prolonged contact. [8,10] The therapeutic warmth and bioactive constituents of the formulation facilitate vasodilation, enhance local blood circulation, and reduce muscular stiffness and spasm in the cranial region. Most importantly, *Upnaha* exerts a soothing and pacifying effect on aggravated *Vata dosha*, which plays a central role in the etiology of *Ardhavabhedaka*. By improving local tissue metabolism and reducing neurovascular tension, this therapy provides significant relief from the sharp, localized, and often debilitating unilateral pain characteristic of migraine [37].

- **Oil Pulling (*Kavala Graha*)**

Kavala Graha [38], commonly known as oil pulling, is an ancient Ayurvedic oral therapy wherein medicated oils such as *Mahanarayani Taila* or *Chandanadi Taila* are swished in the mouth for several minutes, typically performed twice daily. This practice stimulates oral-cerebral reflex pathways, activating parasympathetic responses that promote cranial circulation and support neurological regulation. The mechanical action of swishing enhances detoxification through the salivary glands, which play a key role in systemic toxin elimination. Additionally, *Kavala Graha* improves oral mucosal health, reduces microbial load, and exerts a gentle stimulatory effect on cranial nerves, particularly the facial and glossopharyngeal nerves, indirectly enhancing neural tone, clarity, and systemic homeostasis [39]. Its neuroprotective and anti-inflammatory effects make it a supportive adjunct in the management of migraine and stress-related disorders.

- **Bloodletting (*Raktamokshana*)**

Raktamokshana, or therapeutic bloodletting, is a classical Ayurvedic intervention recommended for the management of *Ardhavabhedaka* (migraine) as described in traditional texts. This procedure is employed to expel vitiated *Rakta* (blood) and *Pitta dosha*, particularly in the *Shakhagata* (cranial) region, thereby alleviating the intense, often unilateral pain characteristic of migraine [40]. By removing localized accumulations of pathogenic factors, *Raktamokshana* reduces peripheral tissue burden, clears microcirculatory obstructions, and restores homeostasis between *Rakta* and *Pitta*. The therapy not only provides immediate symptomatic relief by reducing neurovascular inflammation and pressure but also addresses the root pathophysiology, thereby helping to prevent recurrence. Clinically, patients often experience significant relief in both frequency and

severity of headaches following *Raktamokshana*, making it a valuable component of integrative Ayurvedic migraine management [41].

Thermal Cautery (*Agnikarma*)

According to Ayurveda, pain cannot manifest without the involvement of *Vata Dosh*. *Agnikarma* (therapeutic cauterization), possessing *Ushna* (heat) and *Tikshna* (sharp/penetrating) qualities, helps to pacify the aggravated *Vata*. Hence, *Agnikarma* can be an effective treatment modality in conditions like *Ardhavabhedaka*. Additionally, it is a simple and swift procedure to perform. *Agnikarma* is performed using a *Panchadhātu Shalaka* (five-metal probe), exerts therapeutic effects in migraine by modulating central and peripheral pain pathways. The controlled application of heat stimulates A δ and C nociceptive fibers, leading to the desensitization of myofascial trigger points and the inhibition of Substance P, a key neuropeptide involved in pain transmission. This process concurrently activates descending inhibitory pathways within the central nervous system and promotes the release of endogenous endorphins, resulting in analgesia and neuromodulation. *Agnikarma*, therefore, acts similarly to non-pharmacologic neuromodulation techniques, making it particularly valuable in refractory or chronic migraine. A pilot study combining *Agnikarma* with *Pathyadi Khada* demonstrated a 78.6% improvement rate in migraine symptomatology, underscoring its potential as an effective adjunctive therapy in integrative migraine management [42].

Marma Chikitsa

Marma Chikitsa, the therapeutic stimulation of vital energy points, offers a promising non-pharmacological and non-invasive approach in the management of *Ardhavabhedaka* (migraine). According to Acharya Charaka, *Ardhavabhedaka* is characterized by intense, localized pain confined to one side of the head, particularly affecting the *Manya* (nape of the neck), *Bhru* (eyebrows), *Shankha* (temples), *Karna* (ears), *Akshi* (eyes), and *Lalaata* (forehead). The pain is described as "*Shastra Arani Nibham*" - piercing and unbearable - often debilitating and severely impairing quality of life [43]. In this context, *Shiromarma Chikitsa*, or the precise stimulation of cranial *Marma* points, offers significant therapeutic potential by targeting both symptom relief and the underlying *Doshic* imbalance.

Stimulation of key *Marma* points such as *Vidhura*, *Apanga*, *Avarta*, *Sthapani*, *Simanta*, *Shringataka*, and *Adhipati* has shown to modulate neurovascular tone, reduce pain perception, and enhance neural regulation through subtle energy and reflex pathways. This intervention not only alleviates

acute symptoms such as headache and photophobia but also works at a deeper level to rebalance *Vata* and *Pitta doshas*, which are typically aggravated in *Ardhavabhedaka* [44,45].

Herbo-Mineral Formulations (*Shamanaushadhi* and *Rasaushadhi*)

Herbal and herbo-mineral formulations form a critical component of Ayurvedic migraine management through their multifaceted neurovascular and gastrointestinal effects. *Pathyadi Khada*, a well-known polyherbal decoction, has demonstrated significant clinical efficacy in reducing both the frequency and intensity of migraine episodes, as validated by improvements in MIDAS (Migraine Disability Assessment) and CHQQ (Chronic Headache Quality of Life Questionnaire) scores. The formulation contains herbs that pacify *Vata* and *Pitta doshas*, enhance cerebral circulation, modulate inflammatory biomarkers such as TNF- α and CRP, and restore *Agni*, thereby alleviating coexisting *Amlapitta* symptoms. Complementary herbo-mineral compounds like *Sootashekhara Rasa*, *Rasona Vati*, and *Godanti Mishran*, when administered under a structured Ayurveda Treatment Protocol (AyTP), have shown complete remission in 35.2% of patients in a cohort of 406 within 90 days, with minimal adverse effects. These formulations provide systemic anti-inflammatory, nerve sedative, and gastric protective actions [46]. They also contribute to neurotransmitter stabilization and support thermoregulation of the cranial region. Notably, the combination of *Sootashekhara Rasa* with *Nasya therapy* has shown superior symptom control compared to conventional prophylactics such as Flunarizine, highlighting Ayurveda's integrative potential in chronic migraine care [47].

Dietary and Lifestyle Modifications

In Ayurveda, the management of migraine, emphasizes a holistic approach that integrates therapeutic interventions with dietary and lifestyle modifications, referred to as *Pathya* (wholesome) and *Apathya* (unwholesome) practices. These guidelines focus on optimizing digestion, reducing neuro-inflammation, and minimizing triggers to prevent migraine recurrence.

Dietary *Pathya* plays a pivotal role in supporting metabolic harmony and neurological stability. Recommended staple foods include aged ghee (*Purana Ghrita*), *Shali* and *Shashtikshali* rice, *Yusha* (lentil soup), milk, *Dhanvamansa*, *Sanyab*, and *Ghritapura*, which are light, nourishing, and *Vata-Pitta* pacifying. Vegetables such as *Patolam* (pointed gourd), *Shigru* (moringa), *Vastuka* (lamb's quarters), and *Karvellaka* (bitter gourd) are advised for their anti-inflammatory and detoxifying properties. Fruits like

mango, *Amlaki* (Indian gooseberry), *Dadima* (pomegranate), *Matulunga* (citrus medica), lemon, grapes, and coconut are recommended for their antioxidant and cooling effects. Liquid diets, including milk, medicated oils, coconut water, *Kanji* (fermented rice water), and *Takra* (buttermilk), support hydration and digestion. Medicinal herbs such as *Pathya* (*Terminalia chebula*), *Kushta* (*Saussurea lappa*), *Bhringaraj* (*Eclipta alba*), *Kumari* (*Aloe vera*), *Musta* (*Cyperus rotundus*), *Ushira* (*Vetiveria zizanioides*), *Karpura* (camphor), and *Gandhasar* (sandalwood) are prescribed for their neuroprotective, anti-inflammatory, and *dosha*-balancing properties [48,49].

Apathya guidelines emphasize avoiding practices and foods that exacerbate imbalances of *doshas* and trigger migraine. Suppression of natural urges (*Vegadharana*), such as sneezing, yawning, micturition, defecation, sleep, and lacrimation, is contraindicated, as it aggravates *Vata* and disrupts neurological homeostasis. Unwholesome dietary choices include consuming a mix of cooked and uncooked foods, impure water, curd, lassi, cold beverages, water from specific river sources (e.g., Sahyadri and Vindhyas), and *Kapha*-aggravating foods, which impair digestion and promote *Ama* formation. Lifestyle practices such as daytime sleeping (*Divaswapana*) and excessive teeth-brushing (*Dantadhavanam*) are also discouraged, as they disturb *Vata-Pitta* balance and increase headache susceptibility [48,49].

Dietary interventions emphasize avoiding trigger foods (e.g., spicy, fermented, or caffeinated items) and adopting a fiber-rich diet with whole grains, oats, and leafy greens. Hydration with Tulsi-infused water and digestive tonics like *Triphala Churna* support metabolic balance. Lifestyle modifications, including yoga, Pranayama, and consistent sleep patterns (7–8 hours), reduce stress and sensory overload, minimizing migraine episodes.

DISCUSSION

Migraine is a multifactorial neurological disorder involving complex neurovascular, neuroinflammatory, hormonal, genetic, and gastrointestinal mechanisms. Despite the availability of various pharmacological agents, a substantial proportion of patients experience limited therapeutic benefits, adverse effects, or develop medication-overuse headaches. These clinical limitations highlight the need for integrative, individualized treatment strategies that address the disorder's systemic nature. The current review underscores the relevance of Ayurvedic concepts such as *Ardhavabhedaka* and *Amlapitta* in contextualizing migraine. *Ardhavabhedaka*'s emphasis on *Vata-Pitta-Kapha*

imbalance, especially involving the head (*Shirah*) and gastrointestinal tract (*Amashaya*), resonates with modern understandings of trigeminovascular activation and gut-brain axis dysregulation. Similarly, *Amlapitta*, characterized by *Pitta* aggravation and *Ama* accumulation, reflects systemic inflammation and metabolic derangements known to contribute to migraine pathogenesis.

Ayurveda, with its emphasis on personalized medicine based on *Prakriti* (constitution), *Samprapti* (pathogenesis), and *Doshic* imbalances, provides a comprehensive framework for understanding and managing migraine. The Ayurvedic correlates-*Ardhavabhedaka* and *Amlapitta* capture both the neurological and gastrointestinal dimensions of migraine. *Ardhavabhedaka* involves *Vata-Pitta* dominance affecting the *Shirah* (head) and *Amashaya* (gastrointestinal tract), paralleling the modern concepts of trigeminovascular sensitization and gut-brain axis dysfunction. Similarly, *Amlapitta* reflects *Pitta* aggravation and *Ama* (toxin) accumulation, akin to systemic inflammation and metabolic imbalance implicated in migraine pathophysiology.

Clinical and mechanistic evidence from Ayurvedic literature supports the use of *Shodhana* (biopurification), *Shamana* (palliative care), and localized cranial therapies such as *Nasya*, *Shirodhara*, *Shirovasti*, and *Mridu Virechana* etc. in the management of migraine. These interventions act through multiple mechanisms, including modulation of neurovascular tone, hypothalamic-pituitary-adrenal (HPA) axis regulation, detoxification, *dosha* rebalancing, and activation of parasympathetic pathways. *Nasya* offers direct therapeutic access to cranial structures via the nasal mucosa, while *Basti* supports gut-mediated neurohumoral modulation, aligning with emerging models of gut-brain axis therapeutics. Additionally, systemic detoxification methods like *Raktamokshana* (bloodletting) and *Basti* effectively address *Vata*-dominant pathologies and microcirculatory congestion, key contributors to migraine pathophysiology.

Numerous clinical studies, including randomized controlled trials and observational reports, demonstrate the effectiveness of Ayurvedic protocols in managing migraine. *Nasya* therapies using *Anu Taila*, *Shadbindu Taila*, and *Devadarvadi Ghrita* have consistently reduced attack frequency and severity. Oral formulations such as *Sutshekhara Rasa*, *Godanti Bhasma*, *Laghu Sutashekhara Rasa*, and *Pathyadi Kwatha* have shown significant symptomatic relief and improvements in quality-of-life indices such as MIDAS and CHQQ scores. Notably, a randomized controlled trial comparing Ayurvedic therapy to Flunarizine revealed comparable efficacy in headache

control, with Ayurvedic interventions offering superior outcomes in associated digestive and neurological symptoms alongside better safety and tolerability profiles.

Clinical studies cited in this review ranging from observational reports to controlled trials have shown measurable improvements in frequency, duration, and intensity of migraine attacks with Ayurvedic interventions. Notably, formulations like *Pathyadi Kwatha* and *Sutshekhara Rasa*, when combined with therapies like *Nasya*, offer outcomes comparable or superior to conventional prophylactics such as Flunarizine, especially in addressing associated GI and neurological symptoms.

In addition, therapies such as *Agnikarma*, *Marma Chikitsa*, *Shirolepa* and *Upnaha* offer novel, non-invasive neuromodulatory approaches with promising results. Non-pharmacological recommendations including *pathya-apathya*-based dietary regulation, yoga, pranayama, and sleep hygiene reinforce modern principles of trigger avoidance and autonomic stabilization.

While these findings are encouraging, current limitations include variability in study designs, small sample sizes, and a lack of standardized treatment protocols. Future research must focus on well-powered randomized trials, pharmacological profiling of formulations, and integrative frameworks grounded in systems biology to validate and optimize Ayurvedic management of migraine within mainstream clinical practice.

CONCLUSION

Ayurveda offers a holistic, individualized approach to migraine management by addressing underlying *Doshic* imbalances, gut-brain axis dysfunction, and neuroinflammation through therapies like *Shodhana karma*, *Nasya*, *Shirodhara*, and herbo-mineral formulations. These interventions have shown clinical efficacy in reducing migraine frequency and severity with minimal side effects. Integrating Ayurvedic principles with modern clinical frameworks may enhance therapeutic outcomes, though further research with standardized protocols and robust trials is essential to validate and optimize its role in contemporary migraine care.

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