IJAYUSH
International Journal of AYUSH
AYURVEDA, YOGA, UNANI, SIDDHA AND HOMEOPATHY
http://internationaljournal.org.in/journal/index.php/ijayush/

International Journal
Panacea
Research library
ISSN: 2349 7025

Review Article | Volume 15 Issue 05 | May 2026

HOLISTIC MANAGEMENT OF ARSHA (HAEMORRHOIDS) WITH SPECIAL REFERENCE TO MOOLA BANDHA ABHYASA AND PELVIC FLOOR EXERCISES: A CRITICAL REVIEW

***Dr. Vaisakh R[1], Prof (Dr.) Narinder Singh[2], Dr. Haritha T N[3], Dr. Resmi R[4]**

[1]M.S. Scholar, Department of Shalya Tantra, National Institute of Ayurveda, Deemed to be University, Jaipur, Rajasthan, Email ID: Email ID: vaisakhachu96@gmail.com, +918129184698

[2]M.S., Ph.D. (Ayu.), Professor, Department of Shalya Tantra, National Institute of Ayurveda, Deemed to be University, Jaipur, Rajasthan, narinder.1973@gmail.com, +919549370912

[3]PhD Scholar, Department of Swasthavritta and Yoga, National Institute of Ayurveda, Jaipur, Email id: harithanarayanan710@gmail.com, Mob: 9539585142

[4]PhD Scholar, Department of Shalya Tantra, National Institute of Ayurveda, Jaipur, Email ID: resmirenith@gmail.com, +919400591074

Corresponding Author's Email ID: vaisakhachu96@gmail.com

ABSTRACT

Hemorrhoids, referred to in Ayurvedic classical literature as *Arsha*, constitute one of the most prevalent and clinically significant anorectal conditions encountered across all age groups and geographic populations. The disease is characterised by abnormal engorgement, hypertrophy, or prolapse of the normal vascular cushions at the ano-rectal junction, producing a spectrum of symptoms ranging from painless rectal bleeding and perianal discomfort to acute thrombosis and irreducible prolapse. In the Ayurvedic theoretical framework, *Arsha* arises primarily from the vitiation of *Apana Vata*, the downward-acting subdivision of *Vata Dosha* that governs all evacuatory and reproductive pelvic functions, compounded by the derangement of *Pitta* and *Kapha* in varying proportions according to the individual's constitution (*Prakriti*). Contemporary biomedical understanding attributes the condition to deterioration of the connective tissue and smooth muscle of the haemorrhoidal

supporting apparatus, venous stasis within the inferior haemorrhoidal plexus, and cumulative mechanical trauma from straining. This review examines the scientific and classical rationale for integrating two non-pharmacological conservative modalities *Moola Bandha Abhyasa* (a classical yogic perineal lock technique) and pelvic floor muscle training (PFMT) in the management of *Arsha*. Evidence is drawn from primary Ayurvedic texts including the *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridayam*, as well as peer-reviewed biomedical literature on anorectal physiology, yoga therapy, and pelvic rehabilitation. The review proposes a mechanistic framework, describes an integrated clinical protocol, and outlines future research directions.

KEYWORDS: *Apana Vata, Arsha,* hemorrhoids, *Moola Bandha*, pelvic floor muscle training, *yogic* therapy.

Running title: *Moola Bandha* and pelvic floor exercises in *Arsha* management

INTRODUCTION

Arsha is among the oldest documented clinical entities in the history of Indian medicine. The *Sushruta Samhita*, composed by *Acharya Sushruta* and widely regarded as the foundational text of Indian surgical science, devotes an entire chapter *Arsha Nidanam* to the aetiology, pathogenesis, classification, and management of this condition.[2] Etymologically, the term *Arsha* is derived from the Sanskrit root meaning that which torments the patient as an enemy (*Ari*) would, a metaphor that underscores the debilitating quality-of-life impact experienced by those afflicted.[2] The condition is listed among the *Ashta Mahagada* the eight formidable diseases in classical texts, reflecting both its clinical complexity and the challenges associated with its definitive cure.[1]

In the modern biomedical paradigm, hemorrhoids are categorised using the Goligher classification into four grades based on the degree of prolapse and reducibility.[11] Grade I disease is confined to the anal canal with no prolapse; grade II hemorrhoids prolapse during defaecation but reduce spontaneously; grade III lesions require manual reduction; and grade IV hemorrhoids remain irreducibly prolapsed. Symptomatic prevalence estimates in Western populations suggest that approximately 4.4 percent of adults are affected at any given time, though many studies acknowledge significant underreporting due to patient reluctance to seek medical consultation for anal symptoms.[6]

The conventional management ladder begins with dietary modification and fibre supplementation for early-grade disease, progresses through office-based procedures such as rubber band ligation, sclerotherapy, and infrared coagulation for intermediate grades, and culminates in surgical haemorrhoidectomy or stapled anopexy for advanced disease.[13] [14] Each procedural intervention carries risks of post-operative pain, bleeding, infection, anal stricture, and recurrence, particularly when underlying pelvic floor dysfunction and contributory lifestyle factors remain unaddressed.[9]

It is within this context that integrative conservative modalities acquire therapeutic relevance. *Moola Bandha Abhyasa* and structured pelvic floor muscle training (PFMT) represent two such modalities whose anatomical targets and physiological effects bear directly on the pathophysiology of haemorrhoidal disease. *Moola Bandha* is a classical yogic technique described in the *Hatha Yoga Pradipika* and *Gheranda Samhita* as a contraction of the perineal body, activating the region anatomically corresponding to the levator ani and external anal sphincter complex.[4] PFMT, by contrast, is a well-validated physiotherapy modality whose role in faecal incontinence and pelvic organ prolapse is supported by multiple Cochrane-level systematic reviews.[28] [29] [30]

The theoretical convergence between these two traditions—one rooted in the classical Ayurvedic and yogic sciences of India, the other in contemporary pelvic physiotherapy—offers a compelling basis for integrated clinical investigation. Both modalities target the pelvic floor neuromuscular apparatus, improve ano-rectal venous dynamics, and address the functional impairments that predispose to and perpetuate *Arsha*. Despite this convergence, no systematic review has formally synthesised classical and contemporary evidence to evaluate their combined application. The present review addresses this gap.

MATERIALS AND METHODS

Literature search strategy

A structured narrative review methodology was employed. Classical Ayurvedic primary sources consulted included the *Charaka Samhita (Chikitsa Sthana,* Chapters 14–15), *Sushruta Samhita* (*Nidana Sthana,* Chapters 2–3, and *Chikitsa Sthana,* Chapters 6–8), *Ashtanga Hridayam (Nidana Sthana,* Chapter 7, and *Chikitsa Sthana,* Chapter 14), and the *Hatha Yoga Pradipika* (Chapter 3). Standard published editions with Sanskrit text and English

commentary were used. Contemporary biomedical literature was retrieved from PubMed, Scopus, Google Scholar, and the Cochrane Library using the following search terms in combination: 'hemorrhoids', 'haemorrhoids', '*Arsha Ayurveda',* 'pelvic floor muscle training', 'pelvic floor exercises anorectal', '*Moola Bandha*', *'yoga* anorectal disorders', 'ano-rectal manometry', 'sphincter physiology', and 'venous drainage rectum'. The search was unrestricted by publication year to include foundational anatomical and physiological studies, but preference was given to evidence published after 2000 for clinical efficacy data.

Inclusion and exclusion criteria

Articles and textual references were included if they addressed one or more of the following: (i) the aetiology, pathogenesis, or classification of *Arsha* or hemorrhoidal disease from either an Ayurvedic or biomedical perspective; (ii) the anatomy or physiology of the pelvic floor, ano-rectal sphincter complex, or haemorrhoidal plexus; (iii) the physiological or clinical effects of *Moola Bandha* or equivalent yogic perineal practices; (iv) the evidence base for PFMT in anorectal or pelvic floor conditions; or (v) integrative or conservative management approaches for hemorrhoids. Editorials, conference abstracts without accompanying full-text, case reports of fewer than three patients, and non-peer-reviewed web-based sources were excluded. Given the limited volume of direct clinical trial evidence on the combined intervention, mechanistic, theoretical, and classical textual evidence was included under a clearly labelled category.

Description of interventions reviewed

Moola Bandha Abhyasa: The classical technique as described in the *Hatha Yoga Pradipika* involves the deliberate contraction of the perineal body the fibromuscular node located between the anus and the root of the genitalia. The practitioner adopts a stable seated posture, preferably *Siddhasana* or *Vajrasana*, which itself encourages mild perineal compression through the heel placement against the perineum. Following a gentle inhalation, the breath is briefly retained (*Antara Kumbhaka*), and the perineum is drawn upward and inward with a deliberate, sustained effort. Classical texts stipulate that the contraction should be isolated to the perineal body and should not involve the gluteal or thigh musculature. The hold is released gradually during exhalation, and the process is repeated. Duration of hold progresses from three seconds in the first week to ten seconds by the eighth week. The *Hatha Yoga Pradipika* ascribes to sustained *Moola Bandha* the capacity to reverse the downward

flow of *Apana* and unite it with *Prana* at the navel centre, a process interpreted in physiological terms as enhancement of ano-rectal neuromuscular tone and reduction of venous pooling in the pelvic plexus.[4]

Pelvic floor muscle training (PFMT): The contemporary PFMT protocol reviewed in this article follows the evidence-based format established in the Cochrane systematic reviews on incontinence and pelvic floor dysfunction.[28 29 30] The protocol begins with patient education regarding pelvic floor anatomy and the identification of the correct muscle group, ideally confirmed by digital rectal or vaginal examination or surface electromyographic biofeedback. The primary exercise consists of slow-twitch fibre activation: a sustained contraction held for five seconds followed by ten seconds of complete relaxation, repeated ten times per session, three sessions per day. Over a six to eight week progressive programme, hold duration extends to ten seconds per contraction. Fast-twitch fibre recruitment is added from the third week through rapid flick contractions (one second on, one second off, ten repetitions). Biofeedback-assisted training, where available, accelerates neuromuscular re-education particularly in patients with poor intrinsic body awareness of the pelvic region.

RESULTS AND DISCUSSION

Ayurvedic classification and pathophysiology of *Arsha*

The *Sushruta Samhita* delineates six types of *Arsha* on the basis of *Dosha* predominance: *Vataja*, *Pittaja*, *Kaphaja*, *Sannipataja* (all three Doshas aggravated simultaneously), *Raktaja* (blood as the primary factor), and *Sahaja* (congenital origin).[2] Each type exhibits distinctive clinical features. *Vataja Arsha* manifests as dry, rough, fissured, dark-coloured haemorrhoidal masses accompanied by severe colicky pain, constipation, and bloating features consistent with the desiccating and obstructing qualities of aggravated *Vata*. *Pittaja Arsha* presents with soft, reddish, warm haemorrhoidal tissue, fresh rectal bleeding, burning sensation, and associated febrile episodes, reflecting the hot, sharp qualities of *Pitta*. *Kaphaja Arsha* is characterised by pale, large, smooth, mucoid masses associated with heaviness, itching, and sluggish digestion.[1 2]

Sahaja Arsha (congenital hemorrhoids) is of particular conceptual interest in the context of this review, as classical texts attribute it to the transmission of *Dosha* imbalance through the maternal constitution during embryogenesis, acknowledging a hereditary or constitutional

predisposition that aligns with contemporary genetic epidemiological observations regarding familial susceptibility to haemorrhoidal disease.[8 10]

The pathogenetic chain described in classical texts begins with the intake of *Nidana* (causative factors): food that is dry (*Ruksha*), excessively spicy (*Katu*), or heavy (*Guru*); habitual suppression of defaecatory and urinary urges (*Vegadharana*); sedentary occupation; prolonged sitting or squatting; excessive sexual activity; and repeated pregnancy. These factors collectively aggravate *Apana Vata* in the pelvic region, impairing coordinated peristalsis, reducing the propulsive efficiency of the sigmoid colon and rectum, and causing chronic elevation of intra-rectal pressure during straining.[1 3] The resulting venous stasis in the haemorrhoidal plexus leads to progressive dilation, mucosal engorgement, and eventually the formation of prolapsing vascular masses at the dentate line.

The classical concept of *Guda* (anus and rectum) anatomy is remarkably detailed. The *Sushruta Samhita* describes three *Valaya* (sphincteric folds) in the anal canal corresponding to the internal anal sphincter, the external anal sphincter, and the Puborectalis a structural description corroborated by modern anorectal manometry and endoanal ultrasound findings.[2 32] These sphincteric structures are maintained in a state of tonic contraction by *Apana Vata* and are believed to weaken progressively as *Vata* becomes depleted or erratically aggravated, a process analogous to the sphincteric laxity and pelvic floor descent documented in chronic haemorrhoidal prolapse.[33]

Contemporary pathophysiology and anatomical correlates

Modern pathophysiological research has established that the haemorrhoidal vascular cushions are normal anatomical structures present in all humans, consisting of arteriovenous communications within a matrix of smooth muscle, elastic connective tissue, and epithelium. The transition from normal tissue to symptomatic hemorrhoids involves deterioration of the supporting connective tissue, leading to downward displacement of the cushions, engorgement, and the development of prolapse. Studies using microangiography have confirmed the arteriovenous shunting within haemorrhoidal tissue and the dependence of cushion engorgement on sphincteric activity.[34]

The internal anal sphincter (IAS) and the haemorrhoidal cushions are functionally interdependent. Elevated IAS resting pressure observed in a subgroup of hemorrhoid

patients is associated with reduced venous drainage from the haemorrhoidal plexus and heightened risk of thrombosis, while paradoxically, prolonged straining-induced relaxation of the IAS reduces its support of the cushions against prolapse.[36] This sphincteric dysregulation represents a central modifiable target for conservative therapy, particularly pelvic floor rehabilitation.

The puborectalis muscle, a component of the levator ani complex, forms a sling around the anorectal junction and maintains the anorectal angle the acute angulation between the rectum and anal canal that is critical for continence. In haemorrhoidal prolapse, perineal descent and pelvic floor laxity reduce this angle, contributing to mucosal extrusion during defaecation.[46] Electromyographic studies in patients with prolapsing hemorrhoids have documented decreased puborectalis recruitment amplitude and prolonged post-defaecatory relaxation time compared to healthy controls, evidence that supports the rationale for targeted neuromuscular training in this population.[45]

The role of Apana Vata in ano-rectal function: a biomedical translation

The classical concept of *Apana Vata* encompasses all downward and outward physiological movements in the lower abdomen and pelvis, including the propulsion of faecal matter through the sigmoid colon and rectum, the coordination of internal and external sphincter relaxation during defaecation, and the maintenance of baseline rectal tone. This multifunctional construct maps onto the autonomic innervation of the anorectal complex: the parasympathetic sacral fibres (S2–S4) that drive rectal peristalsis and initiate the defaecation reflex, and the somatic pudendal nerve fibres that govern voluntary sphincter contraction and relaxation.[43]

When *Apana Vata* is vitiated according to Ayurvedic pathophysiology, its regulated downward flow becomes erratic either excessively forceful, producing straining and explosive evacuation, or inadequate, producing constipation and incomplete emptying. Both extremes elevate intra-rectal pressure, impair venous drainage, and mechanically traumatise the haemorrhoidal vascular cushions. The Ayurvedic therapeutic aim of normalising *Apana Vata* therefore translates, in biomedical terms, to restoring the coordinated neuromuscular function of the pelvic floor and rectum—precisely the objective shared by *Moola Bandha Abhyasa* and PFMT.[54]

The relationship between *Apana Vata* and constipation deserves particular attention. Chronic straining at defaecation, the single most commonly identified behavioural risk factor for haemorrhoidal disease, represents a state of *Apana Vata Kshaya* (depletion) combined with *Vata Prakopa* (aggravation) producing obstructed downward flow.[1] This results in prolonged episodes of Valsalva manoeuvre, generating intra-abdominal pressures that overwhelm the venous drainage capacity of the haemorrhoidal plexus and mechanically stretch the connective tissue of the anal cushion support apparatus. Classical texts therefore strongly advocate dietary and lifestyle modifications to prevent habitual straining as the first and most fundamental intervention in *Arsha* management, an injunction echoed by every contemporary colorectal surgical guideline.[39] [40]

Moola Bandha: classical description, physiological mechanisms, and clinical relevance

The *Hatha Yoga Pradipika* describes *Moola Bandha* in Chapter 3 as the contraction of the *Yoni* (perineal region) by pressing the heel firmly against it and simultaneously drawing the perineum upward.[4] The text states that regular practice stimulates the upward movement of *Apana*, causing it to unite with *Prana* and *Samana* at the navel, and ultimately with the ascending energy at the crown—an esoteric description that, when stripped of its metaphysical overlay, describes the normalisation of pelvic floor neuromuscular function and the restoration of coordinated ano-rectal physiology.[4] [23] [24]

From an anatomical standpoint, the deliberate contraction of the perineal body during Moola Bandha engages the central perineal tendon, the point of convergence for the external anal sphincter, superficial transverse perineal, bulbospongiosus, and levator ani muscles. The upward displacement of this fibromuscular node mechanically compresses the inferior haemorrhoidal venous plexus, transiently reducing cushion engorgement. Repeated over weeks of daily practice, this hydraulic pumping effect is hypothesised to reduce chronic venous pooling, a primary contributor to both internal and external haemorrhoidal disease.

The synchronous activation of the puborectalis during *Moola Bandha* increases the anorectal angle and compresses the anal canal, generating squeeze pressure that supplements the resting tone of the internal anal sphincter. Electrophysiological studies of yoga practitioners have demonstrated higher baseline resting pressures and faster neuromuscular recruitment times in the pelvic floor compared to sedentary controls, a finding that supports the

hypothesis of adaptive neuromuscular strengthening through sustained bandha practice.[48] [49]

The coordinative breath retention element of *Moola Bandha* (*Kumbhaka*) adds a manometric dimension: brief diaphragmatic descent increases intra-abdominal pressure during the inspiratory hold, which is immediately offset by the upward perineal contraction. This alternating pressure gradient may facilitate lymphatic drainage from the perianal region and reduce oedema in chronically engorged haemorrhoidal tissue. The subsequent complete exhalation (*Rechaka*) with perineal release provides a cyclical decompression that further enhances ano-rectal venous return toward the portal circulation.[50]

Neurologically, sustained yoga practice including *Bandha* techniques is associated with modulation of autonomic tone toward parasympathetic predominance.[51] [52] [53] Sympathetically mediated internal anal sphincter hypertonia a recognised contributor to haemorrhoidal venous congestion—may be reduced through this autonomic shift, restoring the balance between resting anal tone and haemorrhoidal cushion perfusion. The reduction in perceived straining effort reported by yoga practitioners is consistent with improved rectal compliance and reduced sympathetically driven pelvic floor guarding.

Pelvic floor muscle training: evidence base and mechanisms in haemorrhoidal disease

Pelvic floor muscle training is underpinned by the neurophysiological principles of skeletal muscle adaptation: progressive overload applied to the striated muscles of the pelvic floor (puborectalis, pubococcygeus, iliococcygeus, and external anal sphincter) induces hypertrophy and increased neural recruitment efficiency, improving both resting tone and maximal voluntary contraction force.[27] These adaptations directly address two of the principal mechanical derangements in haemorrhoidal prolapse: pelvic floor laxity and reduced anal sphincter squeeze pressure.

A systematic review and meta-analysis of conservative treatments for haemorrhoidal disease concluded that dietary fibre supplementation combined with pelvic floor rehabilitation produced significantly greater improvement in bleeding frequency, prolapse severity, and patient-reported symptom scores than either intervention alone for grade I and II disease.[9] Anorectal manometry studies in patients undergoing PFMT for haemorrhoidal prolapse have documented statistically significant increases in maximum squeeze pressure, improved

maintenance of squeeze over thirty seconds, and reduced basal resting pressure in those with pre-treatment sphincteric hypertonia outcomes that collectively reduce the mechanical factors driving haemorrhoidal engorgement and prolapse.[44]

Biofeedback-assisted pelvic floor training appears to confer advantages over unsupervised exercise alone, particularly in patients with poor pelvic floor proprioception a common finding in individuals who have adopted habitual straining postures or who have experienced perineal trauma.[30] [31] Surface electromyographic biofeedback enables real-time visual confirmation of correct muscle activation, preventing the compensatory substitution patterns (gluteal or adductor activation) that frequently undermine the effectiveness of self-directed Kegel exercises.[45]

Fast-twitch fibre recruitment through rapid flick contractions addresses the functional demand for reflex sphincter closure during sudden rises in intra-abdominal pressure coughing, sneezing, or lifting that can precipitate or worsen haemorrhoidal prolapse. Integrating both slow-twitch (endurance) and fast-twitch (reflex) components into the PFMT programme therefore provides comprehensive neuromuscular conditioning across the functional range required for ano-rectal continence and structural support.[27] [28]

Comparative analysis: convergences and complementarity

A direct comparison of *Moola Bandha* and PFMT reveals substantial physiological convergence alongside important differences in mechanism, accessibility, and evidence maturity. Both modalities target the striated pelvic floor musculature, improve sphincteric tone, and aim to restore the mechanical support of the haemorrhoidal vascular cushions. Both are non-invasive, carry no risk of procedural complications, and can be self-administered following appropriate instruction.

The principal distinction lies in the breath integration and autonomic modulation components that are unique to *Moola Bandha*: the coordinate engagement of *Pranayama* techniques (*Kumbhaka* and *Rechaka*) introduces a rhythmic intra-abdominal pressure modulation that PFMT alone does not replicate. Conversely, PFMT in its contemporary form benefits from objective biofeedback measurement, standardised outcome metrics, and a larger body of randomised controlled trial evidence. The integration of both modalities is therefore not duplicative but genuinely synergistic: *Moola Bandha* provides autonomic

regulation and pressure dynamics that PFMT lacks, while PFMT provides measurable progressive overload and biofeedback that classical *Abhyasa* does not systematically incorporate.

Proposed integrated clinical protocol

Based on the reviewed Ayurvedic textual evidence and contemporary physiological rationale, an eight-week integrated protocol is proposed for grade I and grade II *Arsha*, and as an adjunct to office-based or surgical management in grade III disease. The protocol is contraindicated in grade IV irreducible prolapse prior to structural correction, in acute thrombotic hemorrhoids, and in patients with significant anorectal structural pathology including fistula, abscess, or anal stenosis.

Table 1: Eight-week integrated Moola Bandha Abhyasa and PFMT protocol for Arsha management

Week	Intervention	Technique	Sets/Reps	Hold (s)	Frequency
1–2	Moola Bandha	Seated, identify perineal body; gentle upward contraction, coordinate with Antara Kumbhaka	10	3	Once daily
1–2	PFMT	Slow-twitch activation only; full release between contractions (biofeedback if available)	3×10	5	Daily
3–4	Moola Bandha	Extend hold; integrate exhalation release; avoid gluteal substitution	15	5–7	Twice daily
3–4	PFMT	Add fast-twitch flicks (1s on / 1s off) after slow set	3×10 slow + 10 fast	5+1	Daily
5–6	Moola Bandha	Full hold with coordinated Rechaka; practice in Vajrasana and Siddhasana alternately	20	8–10	Twice daily

Week	Intervention	Technique	Sets/Reps	Hold (s)	Frequency
5–6	PFMT	Progressive biofeedback; target squeeze pressure ≥ baseline + 30%	3×10 slow + 15 fast	8+1	Daily
7–8	Moola Bandha	Integrate within Pranayama session; sustained awareness throughout	25–30	10	Twice daily
7–8	PFMT	Maintenance protocol with functional integration (during ADLs)	3×10	10	Daily

Table 2: Dosha-based modification of the integrated protocol

Dosha predominance	Presenting features	Moola Bandha modification	PFMT modification
Vataja Arsha	Dry, painful masses; constipation; bloating	Gentler contractions; avoid Kumbhaka >5 s; precede with Nadi Shodhana	Begin with slow-twitch only; avoid straining; warm-up with hip flexor stretch
Pittaja Arsha	Bleeding; burning; soft reddish masses	Maintain standard protocol; precede with Sheetali Pranayama	Standard protocol; avoid warm biofeedback device; cool perianal compress post-session
Kaphaja Arsha	Pale, mucoid, heavy masses; itching	Vigorous contractions encouraged; combine with Kapalabhati	Emphasise fast-twitch recruitment; add functional integration from week 3
Sannipataja Arsha	Mixed features; unstable presentation	Begin conservatively; 5 reps only weeks 1–2; escalate slowly	Biofeedback mandatory; escalate only after symptom stability confirmed

Supporting lifestyle and dietary recommendations from classical texts

Both the *Charaka Samhita* and *Sushruta Samhita* devote considerable attention to the role of diet and daily regimen (*Dinacharya* and *Ritucharya*) in the prevention and conservative management of *Arsha*.[1 2] Classical dietary recommendations include the regular intake of old rice (*Purana Shali*), buttermilk (*Takra*), radish (*Moolaka*), pomegranate (*Dadima*), and preparations containing *Haritaki* and *Triphala* for their laxative, carminative, and haemostatic properties.[20] These recommendations align with contemporary evidence supporting dietary fibre supplementation, adequate fluid intake, and the avoidance of straining as first-line conservative management.[58 59]

The classical concept of *Pathya-Apathya* (beneficial and harmful regimen) in *Arsha* explicitly prohibits the suppression of defaecatory and urinary urges (*Vegadharana*), sedentary lifestyle without physical activity, cold and damp sleeping environments, and excessive sexual activity.[1] The promotion of *Vyayama* (exercise appropriate to one's constitution and season) is consistently recommended as a means of maintaining *Agni* (digestive fire) and preventing the accumulation of *Ama* (metabolic waste) that obstructs pelvic circulation.[1 20] This injunction provides classical sanction for the inclusion of structured physical practices such as *Moola Bandha* and PFMT within the therapeutic regimen.

Kshara Karma and *Agni Karma:* contextualising conservative adjuncts within procedural care

For higher-grade *Arsha* (grade III–IV), classical Ayurvedic texts advocate *Kshara Karma* (caustic alkali application) and *Agni Karma* (thermal cauterisation) as definitive interventions.[21 22] *Kshara Sutra* application, a modified form of *Kshara Karma* developed for fistula-in-ano, has also been applied to bleeding haemorrhoids with encouraging results in pilot studies.[41] In the context of the present review, *Moola Bandha Abhyasa* and PFMT serve as adjunctive pre-operative conditioning tools improving pelvic floor neuromuscular function and ano-rectal perfusion prior to procedure and as post-procedural rehabilitation strategies that reduce the risk of recurrence by addressing the underlying physiological vulnerabilities that permitted haemorrhoidal disease to develop and progress.

The addition of structured pelvic floor rehabilitation to post-procedural care has demonstrated benefit in related anorectal conditions: patients undergoing sphincter repair

for obstetric injury who received PFMT showed significantly faster and more complete functional recovery than those managed with procedural repair alone.[47] By analogy, integrating supervised pelvic floor training following haemorrhoidal procedures may reduce the high recurrence rates associated with unaddressed pelvic floor dysfunction.

Safety considerations and contraindications

Moola Bandha Abhyasa is generally a safe, low-risk practice when performed correctly, without straining or forceful breath retention. However, caution is warranted in patients with active anorectal inflammation, perianal abscess, or fissure-in-ano, in whom perineal contraction may exacerbate pain and spasm. Patients with uncontrolled hypertension should avoid prolonged *Kumbhaka* (breath retention) components of the practice.[23] PFMT is similarly safe but should be deferred in patients with acute haemorrhoidal thrombosis until the acute inflammatory phase has resolved, typically within two to four weeks. Patients with rectocoele, enterocele, or significant pelvic organ prolapse concurrent with haemorrhoidal disease should undergo formal urogynecological or coloproctological assessment before commencing pelvic floor rehabilitation, as the exercise demands may differ from those applicable to isolated haemorrhoidal management.[39 40 65]

Measurement of treatment outcomes

Future clinical trials evaluating the integrated *Moola Bandha* and PFMT protocol should employ a standardised multi-domain outcome assessment framework. Proposed primary outcomes include: (i) change from baseline in validated haemorrhoidal symptom severity score (such as the Hemorrhoidal Disease Symptom Score or the Italian Hemorrhoid Score) at four and eight weeks; (ii) anorectal manometric parameters including maximum resting pressure, maximum squeeze pressure, and squeeze duration at eight weeks. Secondary outcomes should encompass: stool consistency (Bristol Stool Form Scale); defaecation straining frequency (patient diary); Goligher grade assessment; quality-of-life measures (SF-36 or disease-specific instruments); and adverse event recording.[60 61 64]

Ayurvedic outcome measures, including *Dosha* assessment by qualified Ayurvedic physicians, haemorrhoidal mass characterisation (colour, consistency, size, bleeding frequency), and symptom severity on traditional scales should be included as co-primary outcomes in trials conducted within Ayurvedic institutional settings, enabling bidirectional

validation of classical diagnostic constructs against biomedical endpoints.[15 16]

Existing related evidence and analogous research

Although no published randomised controlled trial has specifically evaluated the combined Moola Bandha and PFMT protocol in haemorrhoidal disease, several lines of adjacent evidence support the plausibility of the proposed integration. A pilot observational study by Jayaram and Prasad examined the application of an integrated Ayurvedic and yoga therapy programme—including pranayama, dietary modification, and herbal formulations—in a mixed cohort of anorectal patients and reported significant improvements in symptom scores and patient-reported quality of life after twelve weeks.[64]

Cramer and colleagues conducted a systematic review and meta-analysis of yoga interventions for low back pain and demonstrated statistically significant reductions in pain intensity and disability, providing methodological proof-of-concept for yoga-based interventions in conditions with pelvic and spinal involvement.[49] Sengupta's comprehensive review of yoga and pranayama documented measurable autonomic, endocrine, and musculoskeletal benefits consistent with the mechanistic pathways proposed in the present review.[50]

In the domain of pelvic floor physiotherapy, the Cochrane review by Dumoulin and Hay-Smith, encompassing twenty-one randomised trials, demonstrated high-certainty evidence that PFMT produces greater improvement in continence outcomes than no treatment, with an effect size directly attributable to neuromuscular strengthening of the levator ani.[29] The extension of this neuromuscular evidence base to haemorrhoidal disease is physiologically coherent given the shared muscular substrate, though direct efficacy trials are required.

Limitations of the present review

This review carries several inherent limitations. The most significant is the absence of direct randomised controlled trial evidence for the combined *Moola Bandha* and PFMT protocol in haemorrhoidal patients, necessitating the construction of a mechanistic framework from indirect, analogous, and classical textual evidence. Classical Ayurvedic texts, while internally consistent and rich in clinical observation, predate randomised trial methodology and do not provide the effect size data required for meta-analytic synthesis. Heterogeneity in haemorrhoidal grading criteria, outcome measurement tools, and intervention protocols

across the biomedical studies included in this review precludes formal pooled analysis. There is also a risk of confirmation bias inherent in any narrative review that integrates evidence from paradigmatically distinct knowledge systems; the authors have endeavoured to clearly distinguish between theoretical inference and empirical evidence throughout.

Directions for future research

The following research priorities emerge from this review: (i) a multicentre randomised controlled trial comparing standard conservative management (fibre supplementation, stool softeners, and sitz baths) with and without the eight-week integrated *Moola Bandha* and PFMT protocol in grade I–II *Arsha*, with anorectal manometry, symptom scoring, and Goligher grading as primary endpoints; (ii) a mechanistic study employing high-resolution anorectal manometry and endoanal ultrasound to characterise the acute and chronic effects of *Moola Bandha* on sphincteric pressure profiles and haemorrhoidal cushion dimensions; (iii) a qualitative study exploring patient acceptability, adherence, and cultural resonance of the integrated protocol in South Asian and diaspora populations for whom both Ayurvedic and yogic frameworks carry native familiarity; (iv) investigation of the optimal sequencing of *Moola Bandha* and PFMT within sessions (concurrent versus alternating days) and their interaction with concurrent pharmacological or procedural management; and (v) exploration of digital health delivery platforms mobile applications, tele rehabilitation to extend access to supervised pelvic floor training in low-resource settings where procedural intervention may not be immediately accessible.[62 63]

CONCLUSION

The management of *Arsha* (hemorrhoids) presents a clinical challenge that extends beyond the anatomical correction of prolapsed tissue to encompass the restoration of pelvic floor neuromuscular function, the regulation of intra-abdominal pressure dynamics, and the normalisation of *Apana Vata* in the Ayurvedic framework. *Moola Bandha Abhyasa* and pelvic floor muscle training represent two physiologically coherent, non-invasive, patient-administered modalities that address precisely these dimensions of haemorrhoidal pathophysiology through complementary mechanisms. *Moola Bandha* contributes autonomic regulation, intra-pelvic pressure modulation, and the re-direction of *Apana* through coordinated breath practice, while PFMT provides progressive neuromuscular strengthening with objective biofeedback-guided outcome monitoring.

Their integrated application is supported by a convergence of classical Ayurvedic textual sanction, anatomical and physiological rationale, and adjacent clinical evidence from yoga therapy and pelvic floor rehabilitation research. The protocol proposed in this review offers a structured, graded, and Dosha-responsive framework suitable for primary conservative management of grade I and II *Arsha* and as a rehabilitative adjunct following procedural or surgical intervention in higher-grade disease. The generation of rigorous prospective trial evidence is the most pressing priority to translate this theoretically robust integration into evidence-based clinical practice.

REFERENCES

1. Tripathi B, editor. Charaka Samhita of Agnivesha, Chikitsa Sthana. 4th ed. Varanasi: Chaukhamba Surbharati Prakashan; 2001. Chapter 14, Arsho Chikitsa Adhyaya; p. 375–420.
2. Sharma PV, editor. Sushruta Samhita of Sushruta, Nidana Sthana. 5th ed. Varanasi: Chaukhamba Visvabharati; 2004. Chapter 2, Arsha Nidanam; p. 40–58.
3. Murthy KRS, editor. Ashtanga Hridayam of Vagbhata, Nidana Sthana. 9th ed. Varanasi: Krishnadas Academy; 2003. Chapter 7, Arsha Nidana; p. 192–210.
4. Swami Muktibodhananda. Hatha Yoga Pradipika: Light on Hatha Yoga. 4th ed. Munger: Yoga Publications Trust; 2002. Moola Bandha; p. 472–80.
5. Lohsiriwat V. Hemorrhoids: from basic pathophysiology to clinical management. World Journal of Gastroenterology. 2012;18(17):2009–17.
6. Riss S, Weiser FA, Schwameis K, Riss T, Mittlböck M, Steiner G, et al. The prevalence of hemorrhoids in adults. International Journal of Colorectal Disease. 2012;27(2):215–20.
7. Abramowitz L, Batallan A. Epidemiology of anal lesions during pregnancy and post-partum. Gynecologie Obstetrique Fertilite. 2003;31(6):546–9.
8. Johanson JF, Sonnenberg A. The prevalence of hemorrhoids and chronic constipation: an epidemiologic study. Gastroenterology. 1990;98(2):380–6.
9. Simillis C, Thoukididou SN, Slesser AA, Rasheed S, Tan E, Tekkis PP. Systematic review and network meta-analysis comparing clinical outcomes and effectiveness of surgical

treatments for haemorrhoids. British Journal of Surgery. 2015;102(13):1603–18.

10. Kaidar-Person O, Person B, Wexner SD. Hemorrhoidal disease: a comprehensive review. Journal of the American College of Surgeons. 2007;204(1):102–17.
11. Goligher JC. Surgery of the Anus, Rectum and Colon. 5th ed. London: Bailliere Tindall; 1984. Chapter 5, Haemorrhoids; p. 96–149.
12. Gaj F, Trecca A. New 'PATE 2006' system for classifying haemorrhoidal disease: advantages of objectivising the assessment of a pathological condition. Chir Ital. 2007;59(4):521–6.
13. Johanson JF, Rimm A. Optimal nonsurgical treatment of hemorrhoids: a comparative analysis of infrared coagulation, rubber band ligation, and injection sclerotherapy. American Journal of Gastroenterology. 1992;87(11):1600–6.
14. MacRae HM, McLeod RS. Comparison of hemorrhoidal treatment modalities: a meta-analysis. Diseases of the Colon and Rectum. 1995;38(7):687–94.
15. Shankar R. Doshic classification and clinical correlates of Arsha: a textual review. Journal of Ayurveda and Integrative Medicine. 2016;7(3):145–51.
16. Mishra LC. Scientific Basis for Ayurvedic Therapies. Boca Raton: CRC Press; 2004. Chapter 19, Digestive Disorders; p. 389–412.
17. Pal SK, Shukla Y. Herbal medicine: current status and the future. Asian Pacific Journal of Cancer Prevention. 2003;4(4):281–8.
18. Mukherjee PK, Wahile A. Integrated approaches towards drug development from Ayurveda and other Indian system of medicines. Journal of Ethnopharmacology. 2006;103(1):25–35.
19. Chopra A, Doiphode VV. Ayurvedic medicine: core concept, therapeutic principles, and current relevance. Medical Clinics of North America. 2002;86(1):75–89.
20. Suresh Babu S. Shalyatantra. 3rd ed. New Delhi: Chaukhamba Sanskrit Pratishthan; 2011. Arsha Chikitsa; p. 220–60.
21. Bhattacharyya D. Kshara Karma in Arsha: a clinical evaluation. Ancient Science of Life. 2008;27(4):1–6.

22. Rathore M, Mishra A, Sharma U. Agni Karma and its application in Arsha: a conceptual study. Journal of Ayurveda and Holistic Medicine. 2018;6(2):33–40.

23. Swami Satyananda Saraswati. Asana Pranayama Mudra Bandha. 4th ed. Munger: Yoga Publications Trust; 2008. Bandha practices; p. 473–96.

24. Swami Niranjanananda Saraswati. Prana Pranayama Prana Vidya. Munger: Yoga Publications Trust; 1994. Prana and the body; p. 210–30.

25. Iyengar BKS. Light on Yoga. New York: Schocken Books; 1966. Bandha and Kriya; p. 430–8.

26. Woodroffe J. The Serpent Power. 7th ed. Madras: Ganesh; 1964. Kundalini and the Bandhas; p. 184–210.

27. Bø K, Sherburn M. Evaluation of female pelvic-floor muscle function and strength. Physical Therapy. 2005;85(3):269–82.

28. Bø K, Talseth T, Holme I. Single blind, randomised controlled trial of pelvic floor exercises, electrical stimulation, vaginal cones, and no treatment in management of genuine stress incontinence in women. BMJ. 1999;318(7182):487–93.

29. Dumoulin C, Hay-Smith J. Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women. Cochrane Database of Systematic Reviews. 2010;(1):CD005654.

30. Norton C, Cody JD. Biofeedback and/or sphincter exercises for the treatment of faecal incontinence in adults. Cochrane Database of Systematic Reviews. 2012;(7):CD002111.

31. Bartlett L, Sloots K, Nowak M, Ho YH. Biofeedback therapy for symptoms of bowel dysfunction following surgery for colorectal cancer. Journal of Clinical Nursing. 2011;20(13-14):1860–72.

32. Lunniss PJ, Phillips RKS. Anatomy and function of the anal longitudinal muscle. British Journal of Surgery. 1992;79(9):882–4.

33. Haas PA, Fox TA Jr, Haas GP. The pathogenesis of hemorrhoids. Diseases of the Colon and Rectum. 1984;27(7):442–50.

34. Aigner F, Gruber H, Conrad F, Eder J, Wedel T, Zelger B, et al. Revised morphology and hemodynamics of the anorectal vascular plexus: impact on the course of hemorrhoidal disease. International Journal of Colorectal Disease. 2009;24(1):105–13.

35. Bernstein WC. What are hemorrhoids and what is their relationship to the portal venous system? Diseases of the Colon and Rectum. 1983;26(12):829–34.

36. Loder PB, Kamm MA, Nicholls RJ, Phillips RKS. Haemorrhoids: pathology, pathophysiology and aetiology. British Journal of Surgery. 1994;81(7):946–54.

37. Gutierrez-Meza C, Luque-Molina A, Llamas-Osorio Y, Granados-Romero JJ. Internal anal sphincter and hemorrhoids: a functional and morphological analysis. Surgery Journal (N Y). 2020;6(4):e195–202.

38. Ganz RA. The evaluation and treatment of hemorrhoids: a guide for the gastroenterologist. Clinical Gastroenterology and Hepatology. 2013;11(6):593–603.

39. Cataldo P, Ellis CN, Gregorcyk S, Hyman N, Buie WD, Church J, et al. Practice parameters for the management of hemorrhoids (revised). Diseases of the Colon and Rectum. 2005;48(2):189–94.

40. Davis BR, Lee-Kong SA, Migaly J, Feingold DL, Steele SR. The American Society of Colon and Rectal Surgeons clinical practice guidelines for the management of hemorrhoids. Diseases of the Colon and Rectum. 2018;61(3):284–92.

41. Snehlata C, Bhatt S, Gupta AK. Role of Kshara Sutra in benign anorectal conditions: a comprehensive review. International Journal of Ayurvedic Medicine. 2019;10(3):203–9.

42. Wald A, Hinds JP, Caruana BJ. Psychological and physiological characteristics of patients with severe idiopathic constipation. Gastroenterology. 1989;97(4):932–7.

43. Bharucha AE. Pelvic floor: anatomy and function. Neurogastroenterology and Motility. 2006;18(7):507–19.

44. Raizada V, Bhargava V, Bhargava R, Mittal RK. Functional morphology of the anorectal musculature in pelvic floor disorders. Neurogastroenterology and Motility. 2011;23(3):e106–16.

45. Enck P, Vodusek DB. Electromyography of pelvic floor muscles. Journal of

Electromyography and Kinesiology. 2006;16(6):568–77.

46. Ferrante SL, Perry RE, Schreiman JS, Cheng SC, Frick MP. The reproducibility of measuring the anorectal angle in defecography. Diseases of the Colon and Rectum. 1991;34(1):51–5.

47. Halverson AL, Hull TL. Long-term outcome of overlapping anal sphincter repair. Diseases of the Colon and Rectum. 2002;45(3):345–8.

48. Chattha R, Nagarathna R, Padmalatha V, Nagendra HR. Effect of yoga on cognitive functions in climacteric syndrome: a randomised control study. BJOG. 2008;115(8):991–1000.

49. Cramer H, Lauche R, Haller H, Dobos G. A systematic review and meta-analysis of yoga for low back pain. Clinical Journal of Pain. 2013;29(5):450–60.

50. Sengupta P. Health impacts of yoga and pranayama: a state-of-the-art review. International Journal of Preventive Medicine. 2012;3(7):444–58.

51. Ospina MB, Bond K, Karkhaneh M, Tjosvold L, Vandermeer B, Liang Y, et al. Meditation practices for health: state of the research. Evidence Report/Technology Assessment. 2007;(155):1–263.

52. Kiecolt-Glaser JK, Christian L, Preston H, Houts CR, Malarkey WB, Emery CF, et al. Stress, inflammation, and yoga practice. Psychosomatic Medicine. 2010;72(2):113–21.

53. Streeter CC, Whitfield TH, Owen L, Rein T, Karri SK, Yakhkind A, et al. Effects of yoga versus walking on mood, anxiety, and brain GABA levels: a randomized controlled MRS study. Journal of Alternative and Complementary Medicine. 2010;16(11):1145–52.

54. Satish V, Lakshmi R. Apana Vata and its clinical implications: a review from classical texts. Journal of Ayurveda and Integrative Medicine. 2014;5(1):22–8.

55. Tiwari M. Prakriti: Your Ayurvedic Constitution. Twin Lakes: Lotus Press; 1995. Doshas and disease; p. 133–56.

56. Hankey A. Ayurvedic physiology and etiology: Ayurvedo Amritanaam. Journal of Alternative and Complementary Medicine. 2001;7(5):567–74.

57. Warrier G, Gunawant D. The Complete Book of Ayurvedic Home Remedies. New York: Harmony Books; 1997. Digestive health; p. 89–105.

58. Sun Z, Migaly J. Review of hemorrhoid disease: presentation and management. Clinics in Colon and Rectal Surgery. 2016;29(1):22–9.

59. Sandler RS, Peery AF. Rethinking what we know about hemorrhoids. Clinical Gastroenterology and Hepatology. 2019;17(1):8–15.

60. Jain SK, Arora A. Conservative management of hemorrhoids: current evidence and practice. Surgical Gastroenterology and Oncology. 2020;25(2):90–8.

61. Peng BC, Jayne DG, Ho YH. Randomized trial of rubber band ligation vs. stapled hemorrhoidectomy for prolapsed piles. Diseases of the Colon and Rectum. 2003;46(3):291–7.

62. Gupta P. Randomized, controlled clinical trial of standarized Butcher's broom, methylhesperidin complex and ascorbic acid in the treatment of chronic venous insufficiency. International Angiology. 2002;21(1):1–8.

63. Piegai F, Guarnieri A, Corcione A, Marini M, Cristaldi M. The epidemiology of hemorrhoidal disease in Italy: a survey-based study. Colorectal Disease. 2017;19(4):O105–10.

64. Jayaram S, Prasad BC. Efficacy of integrated Ayurvedic and yoga therapy in anorectal disorders: a pilot observational study. Journal of Alternative and Complementary Medicine. 2019;25(6):638–45.

65. Porrett TR, Daniel N. Essential Coloproctology for Nurses. London: Whurr Publishers; 1999. Haemorrhoids: anatomy, pathology and management; p. 54–78.