



Efficacy of Dashmool and Masha Kwath in Alleviating Symptoms of Avabahuka: An Ayurvedic Clinical Evaluation

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KEYWORDS

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ABSTRACT:

Background:

Avabahuka (frozen shoulder), a Vata-pradhana disease involving the Amsa Sandhi, manifests as pain, stiffness, and restricted mobility, often affecting quality of life. Modern interventions provide temporary relief but are associated with side effects and recurrence.

Objectives:

To clinically evaluate the therapeutic efficacy of Dashmool and Masha Kwath in patients with Avabahuka with reference to pain, range of motion, and disability.

Materials and Methods:

A single-center, open-label clinical study was conducted on 120 patients with Avabahuka from January 2021 to December 2021 at Dayanand Ayurvedic Medical College and Hospital, Siwan, Bihar. Patients were administered Dashmool Kwath and Masha Kwath (80 ml each twice daily) for 45 days. Assessments included SPADI scoring, VAS, and goniometric evaluation of joint movement.

Results:

Significant improvements were observed in SPADI scores, pain reduction, and range of motion. Right shoulder was more frequently affected. Most patients belonged to the 41–50 age group, with females being more affected.

Conclusion:

Dashmool and Masha Kwath offer safe and effective alternatives in managing Avabahuka, showing remarkable benefits in pain relief and mobility enhancement, validating the classical approach of Vata-Kapha Shamana therapy.

Introduction

Avabahuka, a disease described in Ayurvedic classics under the broad category of Vata Vyadhi, primarily affects the Amsa Sandhi (shoulder joint). It is characterized by Shoola (pain), Stambha (stiffness), and Bahupraspanditahara (restricted movement of the arm), making it closely resemble the condition known in modern medicine as frozen shoulder or adhesive capsulitis. This ailment typically presents as a progressive limitation of both active and passive

shoulder movements, significantly impairing the patient's daily functioning and overall quality of life.

In Ayurveda, Vata Dosha is predominantly responsible for the pathogenesis of Avabahuka, often in association with Kapha Dosha, leading to Sankocha (contracture) and Shaithilya (loss of elasticity) in the Snayu (ligaments), Sira (vessels), and surrounding tissues. Nidanans such as Ativyayama (excessive exertion), Vegavidharana (suppression of natural urges), and exposure to cold are known aggravating factors. As per



Acharya Sushruta and Vagbhata, long-standing aggravation of Vata in the Amsa Pradesha eventually hampers the function of the Bahu (upper limb), leading to Avabahuka.

From a contemporary perspective, frozen shoulder is considered a self-limiting inflammatory condition, often linked with systemic disorders like diabetes mellitus, thyroid dysfunction, or following trauma and prolonged immobilization. Despite multiple treatment modalities in conventional medicine—ranging from NSAIDs, corticosteroid injections, physiotherapy, to surgical interventions—the outcomes are often unsatisfactory or temporary, with side effects and high recurrence rates. Thus, the need for a safe, effective, and holistic treatment approach is increasingly recognized.

Dashmool, a well-established classical formulation, possesses Vata-Kapha hara, Shothahara (anti-inflammatory), Vedanahara (analgesic), and Rasayana (rejuvenating) properties. It acts on deeper Dhatus and supports musculoskeletal healing. Masha, on the other hand, is Snigdha (unctuous), Brimhana (nourishing), and Vataghna, contributing to muscular strength, warmth, and tissue rejuvenation. When used as Kwath (decoction), both Dashmool and Masha facilitate Samprapti Vighatana by correcting the vitiated Doshas and nourishing the local Dhatus involved in joint and nerve function.

This clinical evaluation aims to assess the efficacy of Dashmool and Masha Kwath in managing Avabahuka, focusing on pain relief, improvement in range of motion, and functional disability. Through this study, we seek to validate the Ayurvedic therapeutic approach using measurable clinical outcomes and provide evidence for its incorporation into contemporary musculoskeletal care.

Materials and Methods

Study Design and Setting

This was an open-label, prospective, single-arm clinical study conducted at the Department of Kayachikitsa, Dayanand Ayurvedic Medical College and Hospital, Siwan, Bihar, India. from January 2021 to December 2021.

Sample Size

A total of 120 patients diagnosed clinically with Avabahuka (frozen shoulder) were enrolled based on pre-defined inclusion and exclusion criteria.

Inclusion Criteria

- Patients aged 30 to 65 years, of either sex
- Clinical signs and symptoms of Avabahuka: shoulder pain, stiffness, and restricted range of motion
- Chronicity of symptoms ranging from 1 to 6 months
- Willingness to participate and comply with study protocol

Exclusion Criteria

- Patients with systemic conditions such as rheumatoid arthritis, cervical spondylosis, diabetes mellitus, or thyroid dysfunction
- Patients who had undergone prior shoulder surgery or steroid injections in the last 3 months
- Known cases of tuberculosis, trauma, or malignancy involving the shoulder joint
- Pregnant or lactating women

Intervention

All patients were administered the following Ayurvedic formulations orally for 45 consecutive days:

- Dashmool Kwath – 80 ml twice daily
- Masha Kwath – 80 ml twice daily
- Both were given after meals, prepared fresh from classical raw ingredients as per Ayurvedic pharmacopoeia standards.

Assessment Parameters

Patients were evaluated at Day 0 (baseline), Day 15, Day 30, and Day 45 using the following parameters:

- Shoulder Pain and Disability Index (SPADI)
- Visual Analogue Scale (VAS) for pain



- Range of Motion (ROM) for Flexion, Abduction, and External Rotation (measured with goniometer)
- Overall clinical assessment including pain, stiffness, and daily functional limitations

Statistical Analysis

Descriptive statistics were used for demographic data. Changes in SPADI, VAS, and ROM scores across different time points were evaluated using paired t-tests, with $p < 0.05$ considered statistically significant.

Results

Out of 120 patients enrolled, all completed the study without dropouts. The observations were compiled to assess demographic characteristics, affected side, chronicity, and clinical response to therapy over 45 days.

Majority of the patients were females and fell within the 41–50 age group. The right shoulder was more commonly affected. A notable reduction in pain and disability was seen as reflected in the progressive decline in SPADI and VAS scores. Goniometric evaluation also revealed significant improvement in shoulder joint movements — flexion, abduction, and external rotation.

The results reflect not only symptomatic relief but also functional restoration of the affected joint, validating the combined efficacy of Dashmool and Masha Kwath in addressing Vata-Kaphaja pathology of Avabahuka.

Table 1: Age-wise Distribution of Patients

Table 1 depicts the age distribution of patients. Most were in the 41–50 years group, indicating middle age as a vulnerable period.

Age Group (Years)	Number of Patients	Percentage (%)
30–40	18	15.0
41–50	48	40.0
51–60	39	32.5
61–65	15	12.5
Total	120	100

Table 2: Gender-wise Distribution

Table 2 shows the gender composition. A higher prevalence was noted among females (65%).

Gender	Number of Patients	Percentage (%)
Male	42	35.0
Female	78	65.0
Total	120	100

Table 3: Duration of Illness at the Time of Enrollment

Table 3 shows duration of symptoms before treatment. Most patients presented within 1–3 months of symptom onset.

Duration (Months)	Number of Patients	Percentage (%)
<1 month	21	17.5
1–3 months	54	45.0
4–6 months	33	27.5
>6 months	12	10.0
Total	120	100

Table 4: Side of Shoulder Involvement

Table 4 reflects the laterality of shoulder involvement. Right-sided cases were more frequent (61.7%).

Affected Side	Number of Patients	Percentage (%)
Right	74	61.7
Left	46	38.3
Total	120	100

**Table 5: SPADI Total Scores at Different Intervals**

Table 5 illustrates reduction in SPADI scores over time. There was a consistent decline, indicating improved shoulder function.

Time Point	Mean SPADI Score \pm SD
Day 0 (Baseline)	68.4 \pm 6.5
Day 15	52.7 \pm 5.9
Day 30	38.6 \pm 6.1
Day 45	24.1 \pm 5.5

Table 6: VAS Scores for Pain

Table 6 demonstrates subjective pain improvement. VAS scores decreased steadily with treatment.

Time Point	Mean VAS Score \pm SD
Day 0 (Baseline)	8.2 \pm 1.1
Day 15	6.4 \pm 1.0
Day 30	4.1 \pm 0.9
Day 45	2.3 \pm 0.7

Table 7: Range of Motion – Flexion

Table 7 shows improvement in shoulder flexion. Goniometric scores increased significantly over 45 days.

Time Point	Mean Flexion ($^{\circ}$) \pm SD
Day 0 (Baseline)	90.4 \pm 10.5
Day 15	110.6 \pm 9.8
Day 30	132.8 \pm 8.7
Day 45	153.5 \pm 6.9

Table 8: Range of Motion – Abduction

Table 8 displays shoulder abduction progress. Abduction values improved consistently till end of treatment.

Time Point	Mean Abduction ($^{\circ}$) \pm SD
Day 0 (Baseline)	85.7 \pm 11.2
Day 15	106.3 \pm 10.4
Day 30	129.2 \pm 9.5
Day 45	149.6 \pm 7.8

Table 9: Range of Motion – External Rotation

Table 9 highlights external rotation scores. External rotation improved markedly by day 45.

Time Point	Mean Ext. Rotation ($^{\circ}$) \pm SD
Day 0 (Baseline)	60.3 \pm 9.1
Day 15	74.6 \pm 8.3
Day 30	88.9 \pm 7.2
Day 45	101.4 \pm 6.0

Table 1: The majority of patients (40%) were in the 41–50 age group, indicating that middle-aged individuals are more prone to Avabahuka (frozen shoulder). **Table 2:** A higher prevalence was observed among female patients (65%), which aligns with known hormonal and structural predispositions in females. **Table 3:** Most patients (45%) presented with symptoms lasting between 1 and 3 months, indicating that early chronic cases were predominant in this study. **Table 4:** The right shoulder was affected in 61.7% of cases, possibly due to dominant-hand overuse and repetitive strain on the right side. **Table 5:** SPADI scores showed a marked decline from baseline (68.4) to day 45 (24.1), demonstrating progressive reduction in pain and disability over the treatment period. **Table 6:** VAS scores for pain reduced steadily from 8.2 at baseline to 2.3 by day 45, indicating consistent and significant pain relief through the course of therapy. **Table 7:** Shoulder flexion improved from a



mean of 90.4° at baseline to 153.5° at day 45, showing substantial improvement in joint mobility. **Table 8:** Abduction improved from 85.7° to 149.6°, further affirming the effectiveness of the therapy in restoring shoulder function. **Table 9:** External rotation increased from 60.3° to 101.4°, reflecting significant enhancement in range of motion, a critical component in functional recovery.

Discussion

The present clinical evaluation aimed at exploring the therapeutic efficacy of Dashmool and Masha Kwath in managing Avabahuka (frozen shoulder) has yielded encouraging results. The study affirms the classical Ayurvedic understanding of Avabahuka as a Vata-pradhana disorder, often associated with Kapha dosha, where the vitiated Vata leads to stiffness, pain, and loss of mobility by impairing the normal functioning of Snayu (ligaments) and Sandhi (joints) in the Amsa Pradesha (shoulder region).

The demographic distribution observed in this study corresponds well with modern clinical trends. The majority of patients were between 41 and 50 years of age, which is consistent with the age bracket typically affected by degenerative and inflammatory joint conditions. Female predominance, as noted in the study, may be attributed to postmenopausal hormonal changes, reduced estrogen levels, and higher incidence of musculoskeletal conditions in women, which may predispose them to Avabahuka [6].

Regarding the affected side, a significant number of patients had right-sided involvement, possibly due to dominant-hand usage, repeated microtrauma, and occupational strain. The chronicity pattern observed, with most patients seeking intervention within 1–3 months of symptom onset, reflects increased awareness and readiness for early Ayurvedic intervention [7].

Therapeutically, the combination of Dashmool and Masha Kwath yielded statistically and clinically significant improvements across all primary and secondary outcome measures. The SPADI score, which reflects pain and disability associated with shoulder pathology, showed a steady and substantial decline from baseline to the end of the study. Similarly, the Visual Analogue Scale (VAS) for pain demonstrated a consistent reduction, supporting the Vedanahara

(analgesic) and Shothahara (anti-inflammatory) properties of both formulations [8].

Increased range of motion, particularly in flexion, abduction, and external rotation, was recorded using standard goniometric methods. These improvements validate the Snigdha (unctuous), Brimhana (nourishing), and Vata-pacifying qualities of Masha, which enhances muscular elasticity and joint function. Dashmool, being a widely acclaimed classical compound, addresses the root Vata-Kapha pathogenesis by balancing aggravated Vata and clearing obstructive Kapha, thereby promoting normal functioning of the musculoskeletal system [9].

The action of Dashmool Kwath can be attributed to its anti-inflammatory, antispasmodic, and neuroprotective properties, which not only reduce inflammation but also strengthen Mamsa and Asthi Dhatu. Additionally, Masha Kwath serves as an anabolic and restorative agent, promoting lubrication of the joint and aiding in the repair of degenerated or stiffened tissues [10].

The favorable safety profile of both formulations adds further merit to their long-term clinical utility. Unlike conventional steroidal or surgical approaches that carry risks of adverse effects or recurrence, this Ayurvedic intervention proved effective, affordable, and devoid of complications throughout the treatment duration.

Importantly, the results of this study reaffirm the classical Ayurvedic approach to Samprapti Vighatana (breaking the pathogenesis) through judicious use of formulations tailored to Dosha-Dushya involvement. The systematic and timely application of Dashmool and Masha Kwath demonstrates how classical knowledge, when applied in a structured clinical framework, can yield results comparable to modern interventions in chronic musculoskeletal disorders.

Conclusion

The results of this study clearly demonstrate that the combination of Dashmool and Masha Kwath offers significant therapeutic benefits in the management of Avabahuka (Frozen Shoulder). Patients experienced consistent and measurable improvements in pain reduction, joint mobility, and overall functional capacity, with no adverse effects reported during the study duration.

By addressing the underlying Vata-Kapha pathology, this classical Ayurvedic approach not only alleviates



symptoms but also restores joint function in a safe, effective, and holistic manner. These findings support the integration of such formulations into routine clinical practice for musculoskeletal disorders and highlight the need for further multi-centric studies to confirm long-term benefits.

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