

CLINICAL OUTCOME OF MULTIPLE *PUTAKA* (REPEATED ADMINISTRATION) *MĀDHUTAILIKA VASTI* IN *ĀTURA-HASTA PRAMĀṆA* (PATIENT-SPECIFIC HAND MEASUREMENT) IN *KAT'EEGRAHA* (LOW BACK PAIN)

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<https://doi.org/10.70057/ijaar.2026.70604>

ABSTRACT

Introduction: *Kat'eegraha*, described as a manifestation of *Pakvāsāyagata Vāta* under *Vātavyādhi*, represents a common and functionally disabling condition comparable to low back pain. *Vasti Karma* is considered the principal therapeutic modality for *Vāta* disorders owing to its systemic and regulatory actions. *Mādhutailika Vasti*, a type of *Yāpana Vasti* (sustaining or rejuvenative enema), is traditionally administered in *Āturahastapramāṇa* (individualised patient-specific dose). Classical references also advocate multiple *Putaka* administrations until the attainment of *Samyak NiruhaLakṣaṇa* (proper signs of therapeutic purification) to ensure optimal therapeutic outcomes; however, this practice is less commonly implemented in contemporary settings. The present study aimed to evaluate the safety and clinical effectiveness of multiple *Putaka* administrations of *Mādhutailika Vasti* in reducing the signs and symptoms of *Kat'eegraha* and in attaining *Samyak Niruha Lakṣaṇa*.

Materials and Methods: This study presents a subgroup analysis of 16 participants aged 20–60 years who were diagnosed with *Kat'eegraha* and required multiple *putaka* administrations during the *Yoga vasti* period. Ethical approval was obtained from the Institutional Ethics Committee (IRB No: IRB/CL/20/23; dated 10-10-2023). Eligible patients received *Yoga Vasti* on alternate days for 8 days as per institutional protocol. Pain intensity, tenderness, and functional disability were assessed using the Visual Analogue Scale (VAS) and Oswestry Disability Index (ODI) at baseline (Day 0) and on Day 9 (the day following completion of therapy) and the Event evaluation scale were assessed after each *putaka* in each *Niruha*. Data were analyzed using SPSS 2016.

Results: Significant improvement was observed in all primary outcomes ($n = 16$), with pain intensity, tenderness, and ODI scores showing highly significant reductions ($p < 0.001$). Five of seven *Samyak NiruhaLakṣaṇa* parameters also improved significantly ($p < 0.05$) across successive *Niruha* stages following multiple *Putaka* administration of *Mādhutailika Vasti*.

Discussion: The clinical improvement may be attributed to the *Vātānulomana* (normalization of *Apāna Vāta*) and *Vāta–Kapha hara* (pacification of *Vāta* and *Kapha*) actions of *Mādhutailika Vasti*, with progressive attainment of *Samyak NiruhaLakṣaṇa*, indicating a cumulative therapeutic effect in *Kat'eegraha*.

Conclusion: Multiple Putaka administration of Mādhutailika Vasti in Ātura-hasta Pramāṇa significantly reduced pain and disability in Kat'eagraha and promoted attainment of Samyak Niruha Lakṣaṇa. No adverse events were observed during the intervention period, indicating that the procedure is safe and clinically beneficial in low back pain.

Keywords: Mādhutailika Vasti, Kat'eagraha, Aaturahastapramana, low back pain

INTRODUCTION: Kat'eagraha, described under Vātavyādhi, is characterized by pain and stiffness localized in the Kaṭi (lumbar) region, often leading to restriction of movement and functional limitation. In contemporary clinical terms, it closely correlates with low back pain (LBP), defined as pain occurring between the 12th rib and inferior gluteal folds, with or without radiation¹. Low back pain is one of the leading causes of disability worldwide and represents a significant occupational health concern, particularly among sedentary working populations². Factors such as increasing age, elevated body mass index, and sedentary lifestyle contribute to its prevalence and persistence³.

Management of LBP varies depending on chronicity. Acute and subacute cases are usually managed with activity modification and pharmacological therapy such as non-steroidal anti-inflammatory drugs (NSAIDs), while chronic cases often require a multimodal approach including physiotherapy and exercise-based rehabilitation^{4,5}. Although these approaches provide symptomatic relief, long-term management is frequently limited by recurrence, adverse drug effects, and economic burden, necessitating exploration of safe and sustainable therapeutic alternatives.

In Ayurveda, Pañcakarma therapy is regarded as an effective approach for systemic regulation and biological purification.

Among these procedures, Vasti is considered the most important therapeutic modality due to its wide range of systemic actions⁶. Ācārya Caraka has described various types of Vasti, among which Yāpana Vasti is known for its sustaining and restorative properties⁷. Mādhutailika Vasti, a type of Yāpana Vasti prepared using equal proportions of Madhu (honey) and Taila (sesame oil), exhibits both Lekhana (reducing) and Br̥mhaṇa (nourishing) actions^{8,9}. Classical texts emphasise individualised dosing for Niruha Vasti. Suśruta describes the use of Ātura-hasta Pramāṇa, corresponding to Prasṛta Pramāṇa, for determining the dose based on the patient's own palm measure¹⁰. Dalhaṇa further describes Mādhutailika Vasti as Pāda-hīna, indicating a relatively reduced quantity compared to the standard Niruha dose¹¹. Additionally, Vāgbhaṭa states that Niruha Vasti may be administered repeatedly until the attainment of Samyak Niruha Lakṣaṇa, depending on the patient's strength and Doṣa status¹².

Previous clinical observations have suggested that repeated administration of Mādhutailika Vasti in Ātura-hasta Pramāṇa facilitates the attainment of Samyak Niruha Lakṣaṇa and improves clinical symptoms.¹³ However, despite classical support, this approach is not widely practiced in routine clinical settings, possibly

due to concerns regarding procedural safety.

Therefore, the present study was undertaken to evaluate the procedural safety and clinical outcomes of multiple *Putaka* administrations of *Mādhutailika Vasti* in patients with *Kat'eegraha*, through subgroup analysis of cases requiring repeated administration.

AIMS & OBJECTIVES

- To test the effectiveness of *Mādhutailika Vasti* administered as multiple *Putaka* in reducing the signs and symptoms of *Kat'eegraha*.
- To test the effectiveness of *Mādhutailika Vasti* administered as multiple *Putaka* in attaining *Samyak Niruha lakshana* in the management of *Kat'eegraha*

MATERIALS AND METHODS

Clinical study: The study was conducted in the Inpatient Department (IPD) of the Pan-chakarma Department at Vaidyaratnam P.S. Varier Ayurveda College Hospital. A total of 34 patients diagnosed with *Kat'eegraha* were screened and enrolled in the parent clinical study. Among them, 16 participants required multiple *Putaka* administrations of *Mādhutailika Vasti* during the *Niruha* phase and were included in the present subgroup analysis. Participants were aged 20–60 years. Informed consent was obtained from each patient before their inclusion in the study. Patients were free to withdraw their names from the study at any time without giving any reason.

Ethical consideration: Ethical committee clearance was obtained with IRB No-IRB/CL/20/23, dated 10-10-2023.

- **Informed consent:** A structured informed consent proforma approved by the Institutional Ethics Committee was pro-

vided, and written informed consent was obtained from all participants before enrollment. A pre-designed case record form (CRF) was maintained to systematically record demographic data, clinical findings, intervention details, and outcome assessments.

Diagnosis criteria: Participants having pain in the *Kati* region, plus any one of the following tests is positive,

- Genslen's test
- Gillie's test
- Pump handle test
- Schober's test
- **Inclusion criteria:** Participants fulfilling diagnostic criteria
- Participants eligible for *vasti*
- Age group 20–60 years
- Gender – no discrimination
- *Vyadhi Avastha Niraama*
- Participants who give informed consent

Exclusion criteria: Known case of fracture or dislocation of vertebrae

- Deformities or congenital defects
- TB spine
- Known case of neoplasm
- Uncontrolled hypertension (HTN >160/100 mmHg) and diabetes mellitus (FBS >126 mg/dl)
- Pregnant and lactating women

Investigations (for screening)

- Blood pressure
- Blood routine
- FBS, ESR and Total cholesterol
- X – ray – Lumbar – sacral spine AP/L view

- **Intervention:** Participants were screened for *niraama lakshana* before starting *yogavasti*.

Yoga vasti pattern Table 1 intervention

Particulars	Intervention
Poorva karma	Localized abhyanga with <i>Tila taila</i> and <i>Nadi sweda</i> .
Pradh ana karma	<i>Mādhutailika Vasti</i> on the 2 nd , 4 th and 6 th day respectively. <i>Anuvasana vasti</i> with <i>Sahacharadi taila</i> 75ml on the remaining days.
Time of procedure	<i>Niruhavast</i> : 10 -11 am <i>Anuvasana vasti</i> : after lunch (12:30 – 1:30 pm)
Dose	In standardised <i>Aaturahasthapramana</i> (240 ml) ¹³ No.of <i>put'aka</i> – till <i>Samyak Niruha lakshana</i>
Duration	8 days (<i>Yoga vasti</i> pattern)

Table 2. Ingredients of Maadhutailika Vasti¹⁴

<i>Madhu</i>	60 ml
<i>Taila</i>	60 ml
<i>Eranda Moola Kwatha</i>	120 ml (15 grams of the drug was boiled with 240 ml of water and reduced to 120 ml) ¹⁵
<i>S'atapushpaa</i>	24 gm
<i>Saindhava</i>	12 gm

Table no. 3 yoga vasti pattern

Day	1	2	3	4	5	6	7	8
Vasti	A	N	A	N	A	N	A	A

A=*Anuvasana Vasti*, N=*NiruhaVasti*

The standard procedure for *Kaṣāya vasti* and *Sneha vasti* was utilized in this study¹⁶. Patients were advised *Pathya–Apathya* (wholesome and unwholesome dietary and lifestyle regulations) as per institutional standard operating protocol based on classical guidelines for Vasti therapy¹⁷.

- **Duration of treatment:** The two *Vasti* were given on alternate days for 8 days as a *Yoga-vasti* pattern.
- On the day of *Niruha*, after the first *Pu-taka*, if the participant had not attained the

Samyak Niruha Lakshana (SNL), another administration was performed immediately during the same sitting, up to a maximum of four administrations. *SNL* was assessed with a validated proforma.

Outcome measures: Visual analogue scale¹⁸ and Oswestry disability index¹⁹ were assessed on the 0th day and 9th day. *Samyak Niruha Lakshana* on the 2nd, 4th and 6th day (after each *putaka* and in each *Niruha*)¹³

Event evaluation scale was assessed on 2nd, 4th, and 6th day (after each *putaka* in each *Niruha*)¹³

Collection of data: The data was collected from the case record form.

Data Analysis: Data was compiled and coded using a Microsoft Excel spread-

Observation : 1. Effect on signs and symptoms of *Kat'eagraha*

Table no: 4 Effect on *Kat'eagraha*

parameter	BT (mean±SD)	AT (mean±SD)	Test value	P value
VAS	6.38 ± 1.088	1.13 ± 2.391	t=9.791	<0.001
Tenderness	1.25± 0.447	0.25 ± 0.577	Z = -3.557	<0.001
ODI	2.25± 0.447	1.25±.68	Z = -3.557	<0.001

(Abbreviations: BT – Before Treatment; AT – After Treatment; VAS – Visual Analogue Scale (0–10 scale, higher scores indicate greater pain intensity); Tenderness graded on a clinical scale (0 – absent, 1 – mild, 2 – severe); ODI – Oswestry Disability Index used to assess functional disability using a grading score, where higher scores indicate greater disability.)

Following treatment, VAS, tenderness, and ODI scores showed statistically significant reductions ($p < 0.001$), indicating

sheet. Statistical analysis of data was done using SPSS 2016.

Statistical Analysis: Where data followed normality, Parametric tests were used; where data didn't follow normality, Friedman's test, and the Wilcoxon signed rank test were used.

substantial pain relief, decreased tenderness, and improved functional ability in *Kat'eagraha* patients.

1. Effect on *Samyak Niruha Lakshana*

Table no: 5 *Antiki* (details of the last *vega*) score across all *Niruha*

<i>Niruha</i>	<i>Putaka</i> 1 (Mean ± SD)	<i>Putaka</i> 2 (Mean ± SD)	<i>Putaka</i> 3 (Mean ± SD)	P value
N1(n=9)	0.78±0.44	1.11±0.33	1.67±0.71	0.005**
N2(n=5)	1.00±0.00	1.40±0.55	2.20±0.45	0.022**
N3(n=0)	1.50±0.52	2.30±0.48		0.002 [#]

(Abbreviations: N1 – Day 1 *Niruha*; N2 – Day 2 *Niruha*; N3 – Day 3 *Niruha*. 'n' indicates the number of participants who required and completed multiple *Putaka* administrations on the respective *Niruh aday*, **Friedman test, [#]Wilcoxon signed-rank test)

Antiki scores increased significantly across *Putakas* in all *Niruh*as ($p < 0.05$), indicating

progressive attainment of *Samyak Niruha-Lakṣaṇa*

Table no:6 Prasṛiṣṭa Vina-Mūtra-Samīraṇa (easy evacuation of faeces, urine and flatulence) across all Niruha

Niruha	Putaka 1 (Mean ± SD)	Putaka 2 (Mean ± SD)	Putaka 3 (Mean ± SD)	P value
N1(n=9)	2.33±1.00	3.00±0.00	3.00±0.00	0.050**
N2(n=6)	3.00±0.00	3.00±0.00	2.50±1.23	0.368**
N3(n=0)	2.50±0.89	3.00±0.00		0.317 [#]

Significant improvement was observed only in Niruha1 (p = 0.050), while Niruha2 and 3 showed no significant change, suggesting early achievement of adequate elimination.

Table no:7 Āśayalāghava (lightness in abdomen) Scores across all Niruha

Niruha	Putaka 1 (Mean ± SD)	Putaka 2 (Mean ± SD)	Putaka 3 (Mean ± SD)	P value
N1(n=9)	1.78±0.67	2.00±0.50	2.78±0.44	0.001**
N2(n=5)	2.20±0.45	2.20±0.45	3.00±0.00	0.018**
N3(n=0)	2.75±0.58	3.00±0.00		0.102 [#]

Significant improvement was noted in Niruha1 (p = 0.001) and Niruha2 (p = 0.018); Niruha3 showed a non-significant increase.

Table no:8 Laghutā (lightness in the body) across all Niruha

Niruha	Putaka 1 (Mean ± SD)	Putaka 2 (Mean ± SD)	Putaka 3 (Mean ± SD)	P value
N1(n=9)	1.33±.71	1.44±.73	2.44±.53	0.002**
N2(n=5)	1.60±.89	2.20±.84	2.80±.45	.050**

Laghutā improved significantly in Niruha1 (p = 0.002) and Niruha2 (p = 0.050), demonstrating progressive bodily lightness.

Table no:9 Gātra Mārdavam (reduced stiffness/ spasm in the body parts) across all Niruha

Niruha	Putaka 1 (Mean ± SD)	Putaka 2 (Mean ± SD)	Putaka 3 (Mean ± SD)	P value
N1(n=9)	2.00±.50	2.00±.50	2.00±.50	-
N2(n=5)	2.20±.45	2.20±.45	2.20±.45	-

No change was observed across Putaka, indicating a stable response throughout.

Table no:10 Indriya prasannata (sensory clarity) across all Niruha

Niruha	Putaka 1 (Mean ± SD)	Putaka 2 (Mean ± SD)	Putaka 3 (Mean ± SD)	P value
N1(n=9)	1.00±.00	1.00±.00	1.00±.00	-
N2(n=5)	1.06±.25	1.06±.25	1.00±.00	-

Scores remained stable with no significant variation across Putaka.

Table no:11 Agni (digestive/metabolic capacity) and Ruci (appetite or desire for food) across all Niruha

Niruha	Putaka 1 (Mean ± SD)	Putaka 2 (Mean ± SD)	Putaka 3 (Mean ± SD)	P value
N1(n=9)	.89±.33	.89±.33	.89±.33	-
N2(n=5)	1.00±.00	1.00±.00	1.00±.00	-

No significant changes were observed; digestive parameters remained consistent during treatment

RESULTS :

Signs and symptoms of *Kat'eegraha*

The study revealed that significant improvement was observed in all outcome measures following treatment (n = 16).

The mean VAS score decreased from 6.38 ± 1.088 before treatment to 1.13 ± 2.391 after treatment, demonstrating a statistically highly significant reduction in pain intensity (paired t-test, $t(15) = 9.791$, $p < 0.001$).

The mean tenderness score reduced from 1.25 ± 0.447 to 0.25 ± 0.577 , with a statistically highly significant difference confirmed by the Wilcoxon signed-rank test ($Z = -3.557$, $p < 0.001$).

Similarly, the mean Oswestry Disability Index score decreased from 2.25 ± 0.447 to 1.25 ± 0.68 , showing statistically highly significant improvement (Wilcoxon signed-rank test, $Z = -3.557$, $p < 0.001$).

Samyak Niruha Lakshana

Non-parametric analysis of seven clinical indicators across three *Niruha* demonstrated significant improvement in *Aantiki*, *Āsaya Lāghavam*, *Laghutā*, *Prasrṣṭa Viṭ-Mootra-Sameerana*, and *Ruci & Agni* ($p < 0.05$), indicating progressive attainment of *Samyak Niruha Lakṣaṇa* with successive *Putaka*. *Gātra Mārdavam* and *Indriya Prasannatā* remained stable with mild improvement.

DISCUSSION

Effect of *Vasti* on the visual analogue scale (VAS): The primary objective of the present study was to evaluate the effectiveness of the intervention in improving the signs and symptoms of *Kat'eegraha* (low back pain). Low back pain is currently the leading cause of disability worldwide, with increasing prevalence and significant socio-economic burden. It not only restricts mobility but also affects productivity, psychological well-being, and overall quality of

life²⁰. Although conventional management modalities such as NSAIDs, physiotherapy, and surgical interventions provide symptomatic relief, their long-term use is often limited by adverse effects, cost, and recurrence of symptoms. This necessitates safe, cost-effective, and sustainable therapeutic alternatives^{21,22}.

In the present study, a statistically highly significant reduction in pain was observed, indicating marked clinical improvement. Significant improvement was also noted in tenderness and functional disability, reflecting both symptomatic and functional benefits.

The disease *Kat'eegraha* is mentioned as a symptom of *pakvaas'ayagata vaata kopa*²³, and it manifested due to *kevala vāta* or *sāma vāta*. *Kaṭi deśa* is the seat of *vāta doṣa*, and the *sandhi* or joint is enriched with *kapha doṣa*. So *vāta kapha hara* and *vātanulomana* treatment was preferred. The *śodhana* therapy significantly cures the *apānā vaiguṇya* and reduces pain in *kaṭi deśa*. The ingredients of *Mādhutailikavasti*, like *lavana* and *madhu*, have *sookshma*, *srotos'uddhikara*, *yogavaahi*, *anuloman*, and *kaphahara* properties. Further, *lavana* has the unique property of annihilating *stam`bha-bandha-san`ghaata*²⁴. Also, there is no other medicine better than *taila* for curing *vaata kopa*²⁵. *Erand'amoola* has specific action in the *trik* and *kat'i* region²⁶. The *kalka* is prepared from *s'atapushpa*, which itself has *anulomana* and *vedanaasthaapana* action²⁷. Due to repeated administration of *vasti* effect of medicine may be more pronounced, as there is more contact time for the medicine with the colonic mucosa²⁸. In short, *Niruha* brings *vaataanulomata* in *kosht'ha* and helps in reducing pain and stiffness in the lower lumbar spine.

Effect of Vasti on tenderness : The mean tenderness score showed a marked reduction from baseline to after treatment. The median score also declined, with a shift in the overall score range toward lower values. Following intervention. Statistical analysis using the Wilcoxon signed-rank test demonstrated a highly significant improvement, indicating a substantial reduction in tenderness after treatment.

Mādhutailika Vasti exerts its therapeutic effect through *Vātānulomana* and *Srotośodhana* mechanisms, correcting localized *Vāta saṅga* in the *Kaṭi* region. Rectal mucosal stimulation during *Vasti* activates enteric and autonomic reflex pathways, influencing segmental neuromuscular tone and reducing paraspinal muscle spasm. Enhanced regional circulation and modulation of inflammatory mediators decrease nociceptor sensitization, thereby reducing pain and tenderness.^{29,30}

Effect of Vasti on Oswestry Disability Index : In the present study, a significant reduction in disability scores was observed. The improvement in ODI can be attributed to the reduction in pain and tenderness, as well as the alleviation of other clinical signs and symptoms of low back pain. This symptomatic relief directly translated into better mobility, reduced disability, and enhanced performance in day-to-day activities, thereby improving overall quality of life. ODI is a widely accepted, disease-specific instrument to assess the degree of disability and functional impairment in low back pain patients, and it has shown a strong correlation with pain intensity and functional status¹⁸.

Effect of Vasti on *Samyak Niruha Lakshana*

The attainment of *Samyak Niruha Lakṣaṇa* following *Mādhutailika Vasti* reflects a coordinated physiological response across multiple functional domains governed predominantly by *Vāta*. Progressive attainment of *Samyak Niruha Lakṣaṇa* was observed across successive *Putaka* administrations, with greater completeness following the second and third *Putaka* compared to the initial administration. Additionally, a reduced requirement for multiple *Putaka* on subsequent *Niruha* days suggests cumulative therapeutic adaptation and improved physiological responsiveness. The achievement of *Āntiki* indicates effective elimination culminating in *Kapha-anta śuddhi*. *Mādhutailika Vasti* facilitates this through *Vātānulomana*, *Srotośodhana*, and *Kapha Vilayana*. During the initial administration, the action is primarily localized to the *Pakvāsaya*, promoting *mala śodhana*. With successive *Putaka*, the therapeutic influence appears to extend to deeper *Dhātu*, enhancing the expulsion of *Dhātugata Doṣa*. Repeated mucosal contact may augment local stimulation and absorptive mechanisms, thereby strengthening eliminative efficiency. Restoration of the normal course of *Apāna Vāta* plays a central role in achieving unobstructed evacuation, reflected in *Prasṛṣṭa Viṭ-Mūtra-Sameerana*. Repeated administration in *Āturahas-tapramāṇa* dosage supports physiological regulation of *Apāna* early in the course of therapy, ensuring smooth and effortless elimination.

The reduction in *Gātra Mārdava* (body stiffness) suggests effective *Srotośodhana* and *Vātānulomana*, resulting in improved ease of movement irrespective of the underlying pathology. This response indicates normalization of *Vyāna Vāta*, which gov-

erns circulation and coordinated bodily activity³¹.

Improvement in Indriya Prasannatā signifies enhanced sensory clarity achieved through Vāta regulation and clearance of Kapha-dominant mala bhāvas. It reflects the restoration of equilibrium of doshas.

Finally, the enhancement of Agni and Ruci highlights the yogavāhi role of Vāta in digestive regulation. By correcting the gati of Vāta and relieving āvaraṇa, Nirūha Vasti strengthens Agni bala and supports metabolic stability³¹. Collectively, these responses demonstrate that Mādhutailika Vasti produces a structured and progressive therapeutic effect, aligning closely with the classical description of Samyak Nirūha Lakṣaṇa and validating its systemic efficacy.

Discussion on Event Evaluation

Assessment using the Event Evaluation Scale revealed no adverse events during the administration of Mādhutailika Vasti. This safety profile can be attributed to the use of small, carefully measured doses (Āturaḥastapramāṇa), which limit the administered volume while ensuring therapeutic efficacy. The Vāta-hara, anulomana, and Srotośodhana properties of the formulation further contribute to physiological stability and minimise procedural complications.

The absence of complications across multiple puṭaka indicates that the intervention is well-tolerated in patients with Kaṭigraha. These findings are consistent with classical Ayurvedic principles that emphasize individualized dosing, sequential administration, and patient-specific tailoring, reinforcing the suitability of Mādhutailika Vasti for routine clinical use.

CONCLUSION: Kat'eagraha, a Vāta-dominant disorder of the lower back, significantly affects functional ability and quality of life. The findings of the present study indicate that administration of Mādhutailika Vasti in Āturaḥastapramāṇa through multiple puṭaka effectively reduces the clinical features of Kat'eagraha and facilitates the attainment of Samyak Nirūha Lakṣaṇa. Evaluation using the event evaluation scale revealed no significant adverse events, suggesting that the procedure is safe and well-tolerated. Therefore, Mādhutailika Vasti administered in Āturaḥastapramāṇa may be considered a safe and effective therapeutic approach in the management of Kat'eagraha.

Limitation: The outcome assessments in the present study were recorded on the 9th day of intervention. A longer follow-up period would be required to evaluate the sustained therapeutic effects of the intervention.

Self-declaration: I hereby declare that I have not used Artificial Intelligence (AI) or any AI-based tools for the preparation of this manuscript.

REFERENCES

1. M.Krismer, M.Van Tulder. Low back pain (non-specific). Best Practice and Research Clinical Rheumatology, February 2007, Vol 21, Issue 1: Pages 77–91. doi: 10.1016/j.berh.2006.08.004.
2. Shetty GM, Jain S, Thakur H, Khanna K. Prevalence of low back pain in India: a systematic review and meta-analysis. *Work*. 2022;73(2):429–452.doi:10.3233/WOR-205300.
3. Shiri R, Karppinen J, Leino-Arjas P, Solovieva S, Viikari-Juntura E. The association between obesity and low back pain: a meta-analysis. *Am J Epidemiol*.

- 2010;171(2):135-154.
doi:10.1093/aje/kwp356.
4. Zhou, T., Salman, D. & McGregor, A.H. Recent clinical practice guidelines for the management of low back pain: a global comparison. *BMC Musculoskeletal Disorders* 25,344(2024).<https://doi.org/10.1186/s12891-024-07468-0>
5. Hayden JA, Ellis J, Ogilvie R, Stewart SA, Bagg MK, Stanojevic S, et al. Exercise therapy for chronic low back pain. *Cochrane Database Syst Rev*. 2021;9(9):CD009790.
doi:10.1002/14651858.CD009790.pub2.
6. Jaadavji Trikamji, Narayan Ram, editors. *Susruta samhita* of *Susruta* with the *Nibandhasangraha* Commentary. 8th edition. Varanasi: Chaukhamba orientalia, 2014. *Cikitsaasthaana* 35/3; p.525.
7. Jaadavji Trikamji, Narayan Ram, editors. *Susruta samhita* of *Susruta* with the *Nibandhasangraha* Commentary. 8th edition. Varanasi: Chaukhamba orientalia, 2014. *Cikitsaasthaana* 35/18; p.527.
8. Jaadavji Trikamji, Narayan Ram, editors. *Susruta samhita* of *Susruta* with the *Nibandhasangraha* Commentary. 8th edition. Varanasi: Chaukhamba orientalia, 2014. *Cikitsaasthaana* 38/114; p.548.
9. Shivprasad Sharma, editor. *Ashtaanga samgraha* of *Vrddha Vaagbhata* with the *Sasilekhaa* Commentary. 3rd edition. Varanasi: Chaukhambha Sanskrit Series office, 2012. *Kalpasthaana* 5/12; p.602.
10. Vaidya Jaadavaji Trikamji Acaarya, Narayan Ram Acaarya, editors. *Sus'ruta samhita* of *Sus'ruta* with the *Nibandhasangraha* Commentary. 8th edition. Varanasi: Chaukhamba orientalia, 2014. *Cikitsaasthaana* 35/7; p.525.
11. Shivprasad Sharma, editor. *Asht'aan'ga sam'graha* of *Vr'ddha* Vaagbhat'a with the *S'as'ilekhaa* Commentary. 3rd edition. Varanasi: Chaukhambha Sanskrit Series office, 2012. *Sootrasthaana* 28/21; p.216.
12. Harisaastri Paraadakar editor. *Ash-tanga Hridayam*, composed by Vaagbhata with commentaries Sarvaangasundara and Aayurvedarasayana 10th edition. Varanasi: Chaukhamba orientalia 2011. *Sootrasthana* 19/49; p. 280.
13. Singh N, Jigeesh PP. Administration of Madhutailika Vasti in Aturahasta Pramana. *International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy*.2017;6:413–421.
doi:10.23953/cloud.ijaayush.308
14. Jaadavaji Trikamji Acaarya, editor. *Caraka samhita* of *Agnives'a* with the *Aayurveda-Deepikaa* Commentary. 5th edition Varanasi: Chaukhamba orientalia, 2011 *Siddhisthaana* 12/17(13); p.733.
15. Murthy KRS. *Śārṅgadhara Samhitā*. Varanasi: Chaukhambha Orientalia; 2012. *Madhyama Khanda*, 2/137-142; p.56.
16. A.K.Manojkumar, editor. Standard operative procedures of panchakarma. Department of Panchakarma VPSV Ayurveda college Kottakkal, Kerala, India, 2013. p.20,43
17. Hawker GA, Mian S, Kendzerska T, French M. Measures of adult pain: Visual Analog Scale for Pain (VAS). *Arthritis Care Res (Hoboken)*. 2011;63(Suppl 11):S240–S252. doi:10.1002/acr.20543
18. Fairbank JCT, Pynsent PB. The Oswestry Disability Index. *Spine (Phila Pa 1976)*. 2000;25(22):2940–2953. doi:10.1097/00007632-200011150-00017.
19. Weiner DK, Patel KV. Pain management in frail older adults. *Clin Geriatr Med*. 2013;29(2):371–92. doi:10.1016/j.clinthera.2013.09.026.

20. Jarvik JG, Deyo RA. Diagnostic evaluation of low back pain with emphasis on imaging. *Ann Intern Med.* 2002 Oct 1;137(7):586-97. doi: 10.7326/0003-4819-137-7-200210010-00010.
21. Koes B W, van Tulder M W, Thomas S. Diagnosis and treatment of lowback-pain *BMJ* 2006; 332 :1430 doi:10.1136/bmj.332.7555.1430.
22. Haris'aastri Paraad'akar Vaidya, editor. *Asht'aan'ga Hr'dayam* composed by *Vaagbhat'a* with commentaries *Sarvaan'gasundara* and *Ayurvedarasaayana*. 10th edition. Varanasi: Chaukhamba orientalia, 2011. *Nidaansthana* 15/7; p.531.
23. T.Sreekumar, *Ashtan'gahr'daya, Soot-rasthaana* Vol. 2 with English translation and commentary, 4th edition. Varanasi: Chaukhamba Orientalia 2018. *Soot-rasthaana* 19/1; p.75.
24. Haris'aastri Paraad'akar Vaidya, editor. *Asht'aan'ga Hr'dayam* composed by *Vaagbhat'a* with commentaries *Sarvaan'gasundara* and *Ayurvedarasaayana*. 10th edition. Varanasi: Chaukhamba orientalia, 2011. *Sootrasthaana* 13/3; p.211.
25. Srikantha Murthy KR, translator. *Bhaavaprakas'a* of *Bhaavamis'ra* Varanasi: Chowkhamba Krishnadas Academy, Vol II *Purvakhanda*, chapter 6/63, p.236.
26. Prof. P.V.Sharma; Dravyaguna Vijnana- Vol-3, rpt ed, Varanasi; Chaukhamba Bharati academy; 2001; p:261
27. T.Sreekumar, *Ashtan'gahr'daya, Soot-rasthaana* Vol. 2 with English translation and commentary, 4th edition. Varanasi: Chaukhamba Orientalia 2018. *Soot-rasthaana* 19/18-19; p.84.
28. Guyton and Hall Textbook of Medical Physiology. Hall JE. 13th ed. Philadelphia: Elsevier; 2016. p. 787-790.
29. Robbins and Cotran Pathologic Basis of Disease. Kumar V, Abbas AK, Aster JC. 10th ed. Philadelphia: Elsevier; 2020. p. 134-140.
30. Jaadavaji Trikamji Aacaarya, editor. *Caraka sam'hita* of *Agnives'a* with the *Ayurveda-Deepika* Commentary. 5th edition Varanasi: Chaukhamba orientalia, 2011. *Siddhisthana* 1/41; p 684.
31. Tewari PV, editor. *Kaas'yapa Sam'hita* or *Vr'ddha jeevaka tantra*. Varanasi: chaukhamba viswa bharati, 2008. *Khilasthana* 8/75-77; p. 535.

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Source of support: Nil

Conflict of interest: None Declared

Cite this Article as: [Leeya Sam, Subin VR: Clinical Outcome of Multiple Putaka (Repeated Administration) Mādhutailika Vasti in Ātura-Hasta Pramāṇa (Patient-Specific Hand Measurement) in Kat'eegraha (Low Back Pain)] *www.ijaar.in: IJAAR VOL 7 ISSUE 6 JAN-FEB 2026* Page No: - 279-289