AYUSHDHARA
ISSN: 2393-9583 (P)/ 2393-9591 (O)
An International Journal of Research in AYUSH and Allied Systems

Research Article

EVALUATION OF THE EFFICACY OF *VAITARANA BASTI* IN THE MANAGEMENT OF *AMAVATA*

Anusree D[1]*, Gopesh Mangal[2]
*[1]Panchakarma Vaidya, [2]Head of Department, Department of Panchakarma, National Institute of Ayurveda (De Novo), Jaipur, Rajasthan, India.

Article info
Article History:
Received: 19-09-2024
Accepted: 21-10-2024
Published: 20-11-2024
KEYWORDS:
Vaitarana Basti, Amavata, Rheumatoid arthritis, Electric mixer, Emulsion stability.

ABSTRACT

This study investigates the efficacy of *Vaitarana Basti*, prepared using an electric mixer to ensure emulsion stability, in managing *Amavata* symptoms. **Aims:** To evaluate the efficacy of electric mixer in the preparation of *Vaitarana Basti* on therapeutic outcomes in patients suffering from *Amavata*. **Settings and Design:** The study was conducted as a clinical intervention and followed a single-group, pre-test and post-test design. Ten patients diagnosed with *Amavata*, presenting with classical joint-specific symptoms, were included. **Methods and Material:** All ingredients for *Vaitarana Basti* were mixed using an electric mixer to ensure uniform emulsification. Patients received *Yoga Basti* (8 *Basti*) treatment, with assessments carried out both before and after the treatment period. Assessment parameters included joint pain, swelling, stiffness, tenderness, Ayurveda parameters, VAS (Visual Analogue Scale) score, DAS (Disease Activity Score) 28 score, grip strength, and walking time. **Statistical analysis used:** Wilcoxon signed-rank tests were employed for statistical analysis, comparing pre- and post-treatment scores. P-values less than 0.05 were considered statistically significant, indicating treatment efficacy. **Results:** The intervention yielded statistically significant improvements in joint-specific symptoms such as pain, swelling, stiffness, and tenderness ($p<0.05$). VAS and DAS 28 scores also showed significant reductions, and functional indicators like grip strength and walking time improved notably. However, systemic symptoms remained largely unaffected, indicating the localized efficacy of *Vaitarana Basti*. **Conclusions:** *Vaitarana Basti*, prepared with an electric mixer to enhance emulsion uniformity, demonstrated efficacy in relieving joint-specific symptoms of *Amavata*. While short-term symptom relief was evident, further research is needed to assess long-term effects and the emulsion stability of *Basti* prepared without traditional emulsifiers.

INTRODUCTION

Technological advancements have become a hallmark of our era, revolutionizing various aspects of life, particularly in medicine, where innovations in diagnostics and treatment are continuously emerging. *Ayurveda*, the ancient science of holistic healing, is increasingly being validated through rigorous research and the incorporation of modern technologies. One of the key components of Ayurveda therapy is *Panchakarma*, which is employed to address a range of chronic diseases by cleansing and rejuvenating the body.

Amavata, a condition that closely resembles rheumatoid arthritis in terms of symptoms and clinical presentation, is one such disease addressed within Ayurveda practice.[1] *Amavata* represents a growing threat in the current era, driven by the increasing prevalence of autoimmune disorders, lifestyle changes, and an aging population. Its impact on quality of life and the rising healthcare costs associated with chronic management underscore the urgent need for effective and holistic treatment approaches. The primary treatment strategy for *Amavata* involves *Rookshana Chikitsa*, aimed at alleviating the accumulation of toxins (*Ama*) in the body.[2,3] A specialized form of *Basti* therapy, known as *Vaitarana Basti*, which is different in

Access this article online
Quick Response Code
https://doi.org/10.47070/ayushdhara.v11i5.1752
Published by Mahadev Publications (Regd.) publication licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

the formulation of classical *Niruha Basti*, is particularly effective in managing *Amavata*.[4,5]

While classical texts provide detailed instructions on various instruments for *Basti* preparation, the practical application often relies on traditional methods, such as the use of mortar and pestle.[6-9] With the advent of automation and modern technology, there is an opportunity to enhance the preparation process of *Basti* formulations.[10] This study aims to explore the efficacy of using an electric mixer for *Basti* preparation and to assess its specific effects on the management of *Amavata*.

By investigating this innovative approach, the study aims to establish whether automated instruments can improve the consistency and quality of *Basti* formulations, thereby optimizing therapeutic outcomes for patients suffering from *Amavata*. This research seeks to bridge ancient wisdom with modern technology and contribute to the evolving landscape of Ayurvedic medicine within the context of contemporary healthcare practices.

Objective

To evaluate the efficacy of electric mixer in the preparation of *Vaitarana Basti* on therapeutic outcomes in patients suffering from *Amavata*.

Materials and methods

A total of 10 patients with a diagnosis of Rheumatoid Arthritis were included in the study. The criteria for including or excluding patients were based on established diagnostic guidelines, which are detailed in the following sections. A case record form was employed for systematic data collection throughout the study.

Materials used

1. Electric Mixer:
   PHILIPS HL1655/02 Hand Blender:
   a. Power: 250W
   b. Corded Electric
   c. Number of Speeds: 2
2. Measuring Jars: For accurate ingredient measurement.
3. Filtering sieve: For straining mixtures.
4. Steel vessels: For mixing.
5. *Basti putaka* (50 micron plastic bags) and *Basti netra* (brass)

Ingredients of *Vaitarana Basti* [11]

- *Saindhava lavana* (rock salt) (1 *Karsha* / 12 gm)
- *Guda* (Jaggery) (1 *Shukthi* / 24 gm)
- *Chincha* (Tamarind) (1 *Pala* / 50 gm)
- *Gomutra* (Cow's urine) (1 *Kudava* / 200 ml)
- *Tila taila (50 ml)*

Table 1: Ingredients of *Vaitarana Basti*

S.No.	Drug Name	Botanical Name/ English Name
1.	*Chincha*	*Tamarindus indica*
2.	*Guda*	Jaggery
3.	*Saindhava*	Rock salt
4.	*Gomutra*	Cow's urine
5.	*Tila taila*	*Sesamum Indicum*

The solid components of *Vaitarana Basti* were precisely measured using a weighing scale with a precision of 0.001g to 1kg. Furthermore, a volumetric flask with an ISI marking was used to quantify the liquid components precisely. A pH meter was used to determine the *Gomutra's* pH level, guaranteeing a precise assessment of its acidity and alkalinity.

Procedure for making *Vaitarana Basti*

Niruha and *Vaitarana Basti* are prepared differently than *Basti Dravya*. *Saindhava* is first ground completely in *Niruha*, after which *Makshika* (honey), *Sneha Dravya*, *Kalka Dravya*, and *Kwatha Dravya* are added in that order.[12] On the other hand, the traditional process for making *Niruha Basti* is usually used for *Vaitarana Basti*, even though no particular method is mentioned. *Saindhava lavana* is carefully ground before being combined with *Purana Guda* syrup in *Vaitarana Basti*. *Talia* is then added gradually while being constantly mixed. The mixture is supplemented with *Chincha* paste, which is made by grinding seedless *Chincha*. After then, *Drava Dravya* is added gently to ensure complete mixing. After filtering, the resultant solution is gradually heated over a water bath.

To ensure the efficacy of *Basti* formulations, several key factors must be carefully considered:

A) *Chincha Kalka* (Tamarind paste)

Tamarind paste is made by soaking tamarind in water to remove fibers and seeds, giving it a smooth consistency; a high-quality, aged, dark tamarind without a whitish coating is preferred; scientific studies highlight the antioxidant properties of tamarind due to compounds like polyphenols and flavonoids, which can help reduce oxidative stress and inflammation in the body.[13-15]

Nowadays, there are two widely used techniques for making the *Kalka*:

1. Overnight Soaking Method

- After weighing the tamarind, the sufficient amount of water is poured, estimated to thoroughly submerge it.
- The tamarind is allowed to soften by letting the mixture soak for the entire night.

- To prepare the *Basti*, the tamarind is pressed in the morning and the pulp is removed.

2. Hot Water Soaking Method:

- Prior to making the *Basti*, the tamarind is steeped in hot water for two to three hours.
- The tamarind softens more quickly in the hot water, cutting down on soaking time.
- The pulp from the tamarind is extracted by squeezing it after soaking; this pulp is then utilized to make the *Basti*.

These techniques provide versatility in *Basti* preparation, enabling practitioners to select the strategy that best fits their time limits and personal preferences. Both techniques successfully soften the tamarind, guaranteeing that the pulp that is needed for the *Basti* recipe may be extracted.

B) *Guda* (Jaggery)

Jaggery is utilized in its semi-liquid state after being filtered and gradually melted with hot water. Steer clear of excessive grinding or stirring in order to maintain its nutritious value. Essential minerals including iron, calcium, and phosphorus, along with vitamins, are abundant in jaggery and help improve food absorption and assist metabolic processes.[16]

Nowadays, there are two popular ways to make *Guda* syrup:

1. Overnight Soaking Method

- After weighing the *Guda*, the right amount of water is poured, estimated to submerge it thoroughly.
- By letting the mixture soak overnight, the *Guda* dissolves and becomes syrup in the morning.
- This process depends on *Guda's* gradual, natural disintegration in water, which produces syrup.

2. Hot Water Mixing Method

- Involves combining weighed *Guda* with hot water to speed up its disintegration and create syrup.
- The process is sped up by the hot water, which causes the *Guda* to quickly turn into syrup.

Both techniques successfully produce *Guda* syrup for use in making *Basti*, giving practitioners choices according to their tastes and availability of time.

C) *Gomutra* (Cow's urine)

It is best to use fresh cow urine that is transparent and doesn't smell strongly. The presence of foam when mixed signifies freshness. A positive foam test for cow's urine (*Gomutra*) typically indicates the presence of saponins or proteins. When shaken, if *Gomutra* produces a stable foam or froth that remains for some time, it suggests that certain compounds like saponins, which have surfactant-like properties, are present. These compounds can reduce surface tension and produce foam, which is why the test is used to confirm their presence.[17] Modern scientific study supports the traditional usage of cow urine for its anti microbial,[18-20] anti-inflammatory,[21] and immuno-modulatory qualities.[22]

Checking the pH level of the acquired *Gomutra*, which should ideally be between 7 and 8.5, is the most accurate way to evaluate its quality.[23] According to this pH range, *Gomutra* is within permissible bounds for usage in medicinal applications. A pH outside of this range could indicate possible problems with the cow urine's content or quality, necessitating additional testing or thought before usage. A straightforward but efficient method for guaranteeing the quality and appropriateness of *Gomutra* for a range of therapeutic uses is pH testing.

In the current study, all the ingredients for *Vaitarana Basti* were combined and churned using an electric mixer to create a uniform mixture.

Ethical Approval and Trial Registration

The study was conducted in both the Outpatient Department (OPD) and Inpatient Department (IPD). Ethical approval was granted by the Institutional Ethics Committee (IEC) on February 19, 2022, under reference number IEC/ACA/2021/01/9, ensuring adherence to all ethical standards. The approval letter was issued on February 21, 2022.

Trial Site

The study was conducted at the outpatient (OPD) and inpatient (IPD) facilities of National Institute of Ayurveda (De Novo), Jaipur.

Protocol for Treatment

Yoga Basti was administered for eight days during the course of the treatment. Every participant went through a methodical process:

- *Poorvakarma*: Vital signs were taken and *Sthanika Swedana* was performed as part of the patients' preparation for treatment.
- *Pradhanakarma*: *Vaitarana Basti* was administered.
- *Paschatkarma*: Careful notes were taken on *Basti pratyagamana kala* and other pertinent *Lakshanas*.

Consent Process

Written consent was obtained from all participants in person, as patients were available within the study setting. Participants were provided with an informed consent form in both English and Hindi, along with a patient information sheet in the same languages, to ensure they fully understood the study details and their rights.

Diagnostic criteria

- Presence of *Lakshanas* of *Amavata* – *Angamarda, Aruchi, Trishna, Alasya, Gourava, Jwara, Apakata,*

Sandhisotha, Sandhisoola, Sandhijadya, Bahumootrata. [24]

- Raised CRP, ESR and RA factor

Criteria by American Rheumatism Association (ARA)[25-27]

1. Morning stiffness lasting for > 1 hour
2. Arthritis of 3 or more joint areas
3. Arthritis of hand joints
4. Symmetrical arthritis
5. Presence of rheumatoid nodules
6. Presence of rheumatoid factor
7. Radiological changes

First four criteria must be present for a duration of 6 weeks or more Diagnosis of rheumatoid arthritis is made with four or more criteria

Criteria for inclusion: Those who are between the ages of 30 and 60, regardless of gender or religion; those who possess *Amavata*'s *lakshanas*; and those who qualify to administer *Basti.*

Criteria for exclusion

Those with major systemic disorders such as neuroendocrine disorders, MI, stroke, and SLE that interfere with the intervention; those who have developed structural deformities as a consequence of rheumatoid arthritis; those who are hypersensitive to any of the trial medications or interventions; and those with uncontrolled diabetes, hypertension, or other conditions that could jeopardize the study

Primary outcome: DAS (Disease Activity Score)28 score. [28-30]

Secondary outcome: VAS score (Visual Analogue Scale),[31] Grip strength,[32] Walking time.[33]

To examine subjective characteristics, participants' pre- and post-trial signs and symptoms were evaluated using a severity grading system created by Prof. Ram Kishor Joshi et al.[34] This scale provided a full assessment of various facets of the condition, allowing for systematic measurements of symptom severity and treatment success. The pre- and post-trial evaluations gave useful information about the clinical outcomes of *Vaitarana Basti* treatment. Laboratory tests were performed before and after therapy to assess changes in inflammatory markers. This organized approach guaranteed that *Vaitarana Basti*'s safety and efficacy were thoroughly evaluated, providing valuable insights on its clinical application in the treatment of *Amavata*.

Parameters used for Subjective and Objective assessment of signs and symptoms are listed as follows.

Pain in the joint	
No pain	0
Mild pain, comes occasionally	1
Moderate pain, slight difficulty in joint movement, appears frequently	2
Severe pain, requires medicationand may remain throughout the day	3
Severe pain, disturbing sleep and requires strong analgesics	4

Swelling in the joint	
No swelling	0
Slight swelling	1
Moderate swelling	2
Severe swelling	3

Stiffness in the joint	
No stiffness or stiffness lasting for 5 min	0
Stiffness lasting for 5 min to 2 hrs	1
Stiffness lasting for 2 to 8 hours	2
Stiffness lasting for more than 8hours	3

Tenderness in joints	
No tenderness	0
Subjective experience of tenderness	1
Wincing of face on pressure	2
Withdrawal of affected parts on pressure	3
Resists to touch	4

Sandhi shoola	
No pain	00
Mild pain of bearable nature, comes Occasionally	01
Moderate pain, but no difficulty in joint Movement	02
Slight difficulty in joint movement due to Pain or severe pain	03

Sandhi shotha	
No swelling	00
Mild swelling	01
Moderate swelling	02
Severe swelling	03

***Angmarda* (Body ache)**	
No body ache	00
Generalized body ache of end on during the day	01
Generalized body ache during most part of the day not affecting any work	02
Generalized body ache throughout the day But person is able to do normal routine	03
Generalized body ache enough to affect routine work for all the day	04

Sandhi jadyta	
No stiffness or stiffness lasting for 5 mints	00
Stiffness lasting for 5 mints to 2 hrs.	01
Stiffness lasting for 2 to 8 hrs.	02
Stiffness lasting for more than 8 hrs.	03

***Aruchi* (Anorexia)**	
Willing toward all *Bhojya Padarth*	00
Unwilling toward some specific *Ahara* but less than normal	01
Unwilling toward some specific *Katu/Ama Madhura* food	02
Unwilling for food but could take the meal	03

***Alasya* (Laziness)**	
No Alasya	00
Doing satisfactory work /late initiation, Like to sit in comparison to stand	01
Doing unsatisfactory work /late initiation Like to sit in comparison to stand	02
Doing little work very slow, like to lie Down in comparison to sit	03
Dont want to do work/no initiation, like to sleep in comparison to lie down	04

***Trishna* (Excessive thirst)**	
Feeling of thirst (7-9 times/24 hrs.) and Relieved by drinking water	00
Feeling of moderate thirst (>9-11 times/24) And relieved by Drinking water.	01
Feeling of excessive thirst (>11-13 times/24 hrs.) Not relieved by drinking water.	02
Feeling of severe thirst (>13 times) not Relieved by drinking water	03

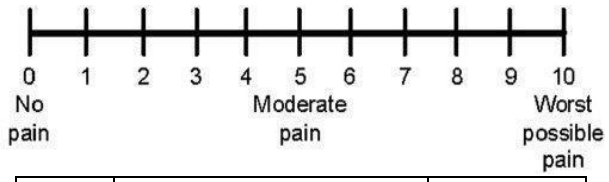
***Gaurava* (Heaviness)**	
No feeling of heaviness	00
Occasional feeling of heaviness	01
Continuous feeling of heaviness, but Patient does usual work	02
Continuous feeling of heaviness which Hampers usual work	03
Unable to do any work due to heaviness	04

Jwara	
No fever	00
Occasional fever subsides by itself	01
Daily one subsides by itself	02
Daily once subsides by drug	03
Continuous fever	04

***Apaka* (Indigestion of food)**	
No *Apaka*/ Indigestion/ prolongation of Food digestion period occasionally related To heavy meal	00
Avipaka occurs daily after each meal take 4 to 6 hour for *Udagara shuddhi* etc.	01
Eat only once in a day and does not have Hungry by Evening	02
Never gets hungry always felling Heaviness in abdomen	03

***Bahumootrata* (frequency of micturition per 24 hours)**	
Less than 4 times /24 hrs.	00
4-6 times /24 hrs.	01
6-10 times/24 hrs.	02
10 times/ 24 hrs.	03

Overall assessment of Pain with VAS scale



Sr.No.	Symptoms	Grading
1.	No pain	00
2.	Distress	01
3.	Annoying	02-03
4.	Uncomfortable	04
5.	Dreadful	05-06
6.	Horrible	08
7.	Unbearable distress	09
8.	Agonizing	10

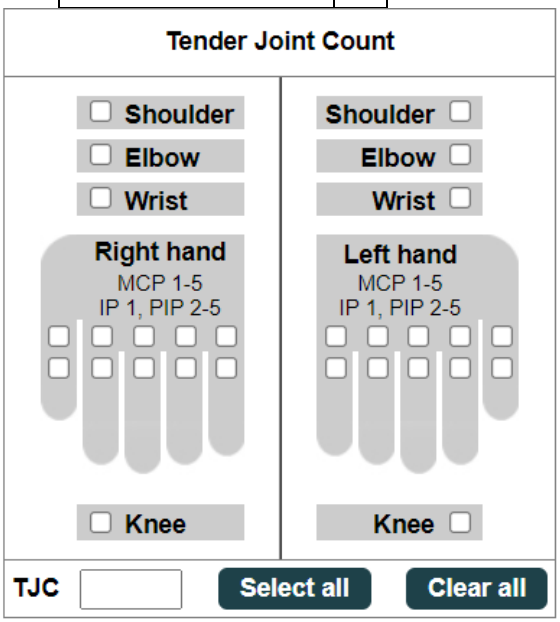
Functional assessment

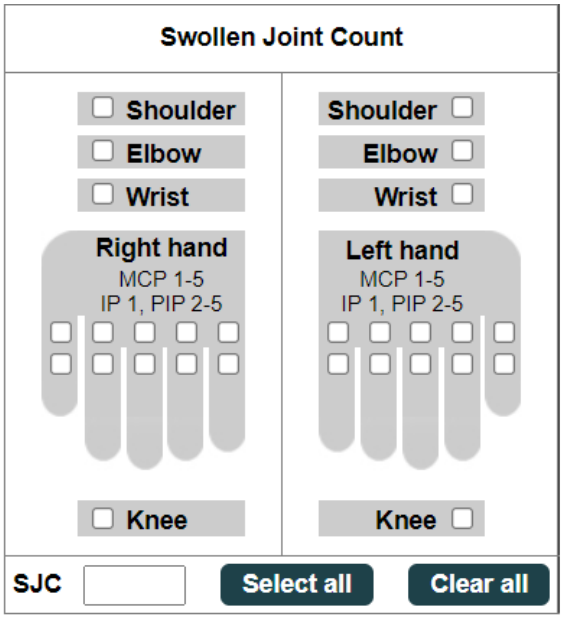
Grip strength

200mmHg or more	0
190-120 mmHg	1
120-70 mmHg	2
Less than 70	3

Walking time

Upto 20 sec	0
21 – 30 sec	1
31 – 40 sec	2
41 - 50	3
Above 50	4





Rheumatoid Arthritis Disease Activity Score DAS- 28

Results

Using Graph Pad Prism 10, the data were first put through a normality test to make sure the statistical techniques used in this investigation were adequate. The data doesn't follow normalcy curve. Because non-parametric statistical techniques are more appropriate for examining data that depart from normalcy, they were selected. The Wilcoxon signed-rank test was used since this study had a before-and-after treatment design. This test works especially well with paired data since it makes it possible to compare measures taken before and after the treatment procedures. A significance level of $p < 0.05$ was set to determine the statistical significance of the findings.

Table 2: Efficacy of treatment

Assessment Parameter	BT mean	AT mean	BT SD	AT SD	W value	P value	Significance
Pain in joints	2.70	1.20	0.95	1.03	50	$p < 0.05$	S
Swelling in joints	1.10	0.30	0.74	0.68	21	$p < 0.05$	S
Stiffness in joints	1.50	0.40	1.27	0.52	28	$p < 0.05$	S
Tenderness in joints	2.70	1.10	1.34	1.20	55	$p < 0.05$	S
Sandhi shoola	1.80	0.50	1.23	0.85	36	$p < 0.05$	S
Sandhi Jadyata	1.90	0.80	1.01	0.92	45	$p < 0.05$	S
Sandhi shotha	2.20	0.90	0.79	0.74	45	$p < 0.05$	S
Angamarda	2.60	2.40	1.65	1.43	3	$p > 0.05$	NS
Aruchi	2.50	1.80	1.43	1.93	12	$p > 0.05$	NS
Trishna	1.30	2.20	1.42	1.03	22	$p > 0.05$	NS
Alasya	2.70	2.00	1.57	1.83	14	$p > 0.05$	NS
Gourava	1.90	1.40	1.66	1.08	13	$p > 0.05$	NS

Jwara	2.40	1.70	1.17	1.57	35	p > 0.05	NS
Apaka	2.20	1.40	1.03	1.35	17	p > 0.05	NS
Bahumootrata	1.60	2.00	1.27	1.05	7	p > 0.05	NS
VAS	6.70	4.10	1.67	1.73	55	p < 0.05	S
DAS 28	5.58	3.73	0.53	0.51	55	p < 0.05	S
Grip strength	2.10	0.90	0.88	0.99	48	p < 0.05	S
Walking time	2.10	0.80	0.88	0.79	32	p < 0.05	S

(BT- Before treatment, AT – After treatment, SD- Standard deviation, S – Significant, NS – Not Significant)

DISCUSSION

The assessment parameters included both the classical symptoms of *Amavata* and the symptoms related to the affected joint. *Basti* is regarded as the primary treatment in conditions involving *Vata dosha*.[35] Since *Amavata* arises from the accumulation of *Ama*, leading to an imbalance in *Vata*, *Basti* is an appropriate therapy to address the vitiated *Vata*.

In this study, *Vaitarana Basti* was administered, and the results were analyzed to evaluate its efficacy. It was observed that *Vaitarana Basti* demonstrated statistically significant improvement in parameters related to joint involvement. These include the reduction of pain, swelling, stiffness, and tenderness in the joints, all of which showed marked improvement with treatment. Additionally, scores from the Visual Analog Scale (VAS) and Disease Activity Score (DAS 28), which are critical indicators for measuring the intensity of pain and overall joint function, also revealed statistically significant reductions. The improvement in grip strength and walking time further suggests that *Vaitarana Basti* not only alleviates joint-related symptoms but also enhances physical function and mobility, thereby improving the quality of life for patients suffering from *Amavata*.

However, when examining the impact of *Vaitarana Basti* on more systemic symptoms, such as those associated with *Koshta* and *Sharira* (body-wide symptoms), no statistically significant improvement was observed. This highlights that while *Basti* therapy effectively targets localized joint symptoms, its influence on overall systemic symptoms may be limited. In the context of *Amavata*, where both *Ama* and *Vata* play a pivotal role, the failure to address *Ama* fully might explain the lack of significant improvement in these systemic symptoms.

The results of this study suggest that *Vaitarana Basti* acts as a target-specific procedure, primarily focusing on the alleviation of *Vata*-related joint symptoms. By pacifying aggravated *Vata*, it provides substantial relief from joint pain and improves functional abilities like grip strength and mobility. However, the long-term efficacy of this treatment in managing systemic symptoms remains questionable. In cases where *Ama* persists in the system (indicated by *Leena dosha*), the inability to evacuate it may hinder the overall therapeutic outcome, particularly regarding systemic symptoms.

A notable deviation from the classical preparation of *Basti* in this study was the method used for preparing *Vaitarana Basti*. Traditionally, *Basti* involves the subsequent mixing of ingredients manually until a homogenous mixture is achieved. However, in this study, an electric mixer was employed, wherein all the ingredients were combined and churned together to form a homogeneous mixture. The use of an electric mixer introduces a modern element to the preparation process, providing high shear forces that are necessary to break down the dispersed phase into smaller particles.[36] This vigorous mixing process helps create a suspension of two immiscible liquids, such as oil and water, and stabilizes the resulting emulsion, which is crucial for the efficacy of *Basti*.

In the context of *Niruha*, the homogeneous mixture is maintained due to the emulsifying properties of honey.[37] Honey acts as a natural emulsifier, helping to stabilize the mixture of oil and water. However, *Vaitarana Basti* differs from typical *Niruha Basti* as it does not contain honey. Instead, jaggery is used as an ingredient in *Vaitarana Basti*, and the emulsifying properties of jaggery are not well-established in the current scientific literature. While jaggery is a natural sweetener, its ability to act as an emulsifying agent is uncertain and requires further exploration.

The use of an electric mixer in this study likely facilitated the temporary stabilization of the mixture by combining the immiscible phases (such as oil and water) into an emulsion. However, without a strong emulsifying agent, the stability of the emulsion could be questionable over time. Emulsions without stabilizers tend to separate into their original phases, depending on factors such as the composition, environmental conditions, and the physicochemical properties of the emulsion. In this case, while the

electric mixer may have temporarily homogenized the ingredients, and as *Basti* is generally administered immediately after preparation, the emulsion likely remained stable within the short timeframe required for administration. Future research should focus on investigating whether jaggery or other components in the preparation of *Vaitarana Basti* can act as effective emulsifiers and how the stability of the emulsion affects its therapeutic efficacy.

This innovative approach of using an electric mixer introduces a modern method for preparing *Basti*, but it also opens the door for further scientific validation, particularly regarding the stability and efficacy of *Basti* preparation.

Therefore, while *Vaitarana Basti* offers significant short-term relief and improvement in joint-related symptoms, its effectiveness in long-term management of *Amavata*, especially concerning overall bodily symptoms, requires further investigation. Additional therapies aimed at removing *Ama* from the system may be necessary to achieve more comprehensive and sustained relief from the disease.

CONCLUSION

The present study highlights the therapeutic potential of *Vaitarana Basti* in the management of *Amavata*, specifically targeting joint-related symptoms like pain, swelling, stiffness, and tenderness. The significant improvement in parameters such as VAS, DAS 28 scores, grip strength, and walking time emphasizes the efficacy of *Basti* in alleviating joint symptoms and improving patients' quality of life. The method of preparation, using an electric mixer to create a more homogenous mixture, introduced a modern approach to classical *Basti* preparation, which contributed to ease of administration and consistency. While immediate symptom relief is evident, the long-term impact of *Vaitarana Basti* on *Amavata* remains unclear. Therefore, extended studies are essential to evaluate the durability of symptom relief and to monitor any potential adverse effects over time. Also given that emulsions are inherently thermo-dynamically unstable, it's crucial to assess the kinetic stability of *Vaitarana Basti* to ensure its efficacy and safety which throws light to further research works.

ACKNOWLEDGEMENT

The authors express their sincere gratitude to the Department of *Panchakarma*, for providing the necessary facilities and support for this study. We are thankful to all the patients who participated in this study for their cooperation and trust. Special thanks to colleagues and staff members for their invaluable assistance in patient management and data collection.

REFERENCES

1. Gupta SK, Thakar AB, Dudhamal TS, Nema A. Management of Amavata (rheumatoid arthritis) with diet and Virechana karma. Ayu. 2015; 36(4): 413-5.
2. Cakradatta, Sanskrit text with English translation, edited and translated by Priya Vrat Sharma; Chapter 73, Verse 32.1st ed. Varanasi: Chowkhambha Sanskrit Series: 2007. p.628
3. Vangasen, Vangasen samhita edited by Dr. Nirmal Saxena; Chapter 83, Verse 186-190. 1st ed. Varanasi: Chowkhambha Sanskrit Series: 2004.p.1164
4. Cakradatta, Sanskrit text with English translation, edited and translated by Priya Vrat Sharma; Chapter 73, Verse 32. 1st ed. Varanasi: Chowkhambha Sanskrit Series: 2007.p.628
5. Vangasen, Vangasen samhita edited by Dr. Nirmal Saxena; Chapter 83, Verse 186-190. 1st ed. Varanasi: Chowkhambha Sanskrit Series: 2004.p.1164
6. Acharya YT, Narayan Ram Aacharya, editors. Sushruta samhita of Sushruta with the Nibandhasaṇgraha Commentary, Cikitsa sthana; Chapter 38, Verse 102. 8th ed. Varanasi: Chaukhamba Orientalia: 2005. p.548.
7. Paradkar H, Ashṭanga Hṛdayam composed by Vagbhaṭa with commentaries Sarvangasundara and Ayurveda rasayana, Sootrasthaana; Chapter 19, Verse 45. 6th ed. Varanasi: Chowkhambha Krishnadas Academy: 2006. p.289.
8. Tewari PV, editor. Kashyapa samhita or Vrddha jeevakatantra, Khilasthana; Chapter 8, Verse 44. 1st ed. Varanasi: Chaukamba viswabharati: 2002. p.30-31
9. Anusree D, Vedpathak S.A Comparison of Basti Instruments Used in Samhita and Current Period with special reference to Mode of Action. IRJAY. 2022; 5(1): 175-180
10. Shirodkar A, Ahmed MA, Abishek S, Kuruvila S, Swaminathan G. Automated Basti Blender. Int Res J Eng Technol. 2022; 9(4): 3136-40.
11. Cakradatta, Sanskrit text with English translation, edited and translated by Priya Vrat Sharma; Chapter 73, Verse 32. 1st ed. Varanasi: Chowkhambha Sanskrit Series: 2007.p.628
12. Yadavji Trikamji, editor. Caraka Samhita Ayurveda Deepika commentary by Cakrapaanidatta. Siddhisthana, Chapter 3, Verse 23. 5th ed. Varanasi: Caukhambha Bharati Academy: 2014.p.693
13. Ugwuona FU, Onweluzo JC. Assessment of antioxidant properties of tamarind fruit pulp and its effect on storage stability of African bread fruit seed dhal and flour. Nigerian Food Journal. 2013; 31(2): 41-7.
14. Li W, Huang R, Han S, Li X, Gong H, Zhang Q, Yan C, Li Y, He R. Potential of Tamarind Shell Extract against Oxidative Stress In Vivo and In Vitro. Molecules. 2023; 28(4): 1885.
15. Sandesh P, Velu V, Singh RP. Antioxidant activities of tamarind (Tamarindus Indica) seed coat extracts using in vitro and in vivo models. J Food Sci Technol. 2014; 51(9): 1965-73.

16. Rao GP, Singh P. Value Addition and Fortification in Non-Centrifugal Sugar (Jaggery): A Potential Source of Functional and Nutraceutical Foods. Sugar Tech. 2022; 24(2): 387-396.
17. Pant L, Thapa S, Dahal B, Khadka R, Biradar MS. In Silico and In Vitro Studies of Antibacterial Activity of Cow Urine Distillate (CUD). Evid Based Complement Alternat Med. 2024; 19: 47-63.
18. Jarald E, Edwin S, Tiwari V, Garg R, Toppo E. Antioxidant and antimicrobial activities of cow urine. Glob J Pharmacol. 2008; 2: 20–2.
19. Mohanty I, Senapati MR, Jena D, Pallai S. Diversified uses of cow urine. Int J Pharm Pharm Sci. 2014; 6: 20–2
20. Kumar R, Kaushik JK, Mohanty AK, Kumar S. Identification of bioactive components behind the antimicrobial activity of cow urine by peptide and metabolite profiling. Anim Biosci. 2023; 36(7): 1130-1142.
21. Kumar R, Ali SA, Singh SK, Bhushan V, Kaushik JK, Mohanty AK, Kumar S. Peptide profiling in cow urine reveals molecular signature of physiology-driven pathways and in-silico predicted bioactive properties. Sci Rep. 2021; 11(1): 124-27.
22. Randhawa GK, Sharma R. Chemotherapeutic potential of cow urine: A review. J Intercult Ethnopharmacol. 2015 Apr-Jun; 4(2): 180-6.
23. Patil MD, Dalavi VL, Thorat NB, Patil DR. Biochemical examination of Deoni cow urine. Int J Cow Sci. 2020; 4(1): 33-40
24. Madhavnidana. Vijay Rakshit & Shri Kanthadutta, Madhukosh Teeka by Madhavkara; Chapter 25, Verse 1-5. 1st ed. 2009, p.508-09.
25. Arnett FC, Edworthy SM, Bloch DA, McShane DJ, Fries JF, Cooper NS, Healey LA, Kaplan SR, Liang MH, Luthra HS, et al. The American Rheumatism Association 1987 revised criteria for the classification of rheumatoid arthritis. Arthritis Rheum. 1988; 31(3): 315-24.
26. American College of Rheumatology. Rheumatology clinical criteria [Internet]. Available from: https://rheumatology.org/criteria. Cited 2024 Oct 25.
27. Kay J, Upchurch KS. ACR/EULAR 2010 rheumatoid arthritis classification criteria. Rheumatology. 2012; 51(Suppl 6): 5-9
28. Pisaniello HL, Whittle SL, Lester S, Menz F, Metcalf R, McWilliams L, Hill CL, Proudman S. Using the derived 28-joint disease activity score patient-reported components (DAS28-P) index as a discriminatory measure of response to disease-modifying anti-rheumatic drug therapy in early rheumatoid arthritis. BMC Rheumatol. 2022; 6(1): 67.
29. McWilliams DF, Kiely PDW, Young A, Joharatnam N, Wilson D, Walsh DA. Interpretation of DAS28 and its components in the assessment of inflammatory and non-inflammatory aspects of rheumatoid arthritis. BMC Rheumatol. 2018; 2: 8.
30. Wells G, Becker J, Teng J, et al Validation of the 28-joint Disease Activity Score (DAS28) and European League Against Rheumatism response criteria based on C-reactive protein against disease progression in patients with rheumatoid arthritis, and comparison with the DAS28 based on erythrocyte sedimentation rate. Annals of the Rheumatic Diseases. 2009; 68: 954-960.
31. Wolfe F, Michaud K, Pincus T. Preliminary evaluation of a visual analog function scale for use in rheumatoid arthritis. J Rheumatol. 2005 Jul; 32(7):1261-6.
32. Sobue Y, Suzuki M, Ohashi Y, Sato R, Kosugiyama H, Ohno Y, Hasegawa J, Sugiura T, Terabe K, Asai S, Imagama S. Verification of grip strength as an evaluation tool for locomotive syndrome in rheumatoid arthritis. Osteoporos Sarcopenia. 2024; 10(3): 119–25.
33. Ferreira MB, Saraiva FA, Fonseca T, Costa R, Marinho A, Oliveira JC, Carvalho HC, Rodrigues P, Ferreira JP. Clinical associations and prognostic implications of 6-minute walk test in rheumatoid arthritis. Sci Rep. 2022; 12(1): 186-72.
34. Sasane P, Saroj UR, Joshi RK. Clinical evaluation of efficacy of Alambushadi Ghana Vati and Vaitarana Basti in the management of Amavata with special reference to rheumatoid arthritis. AYU. 2016; 37(2): 105-12.
35. Anusree D, Surendra Vedpathak, Nidhin P.S. A Critical Review of Vatavyadhi and Basti Chikitsa with Special Reference to Musculoskeletal Disorders. Journal of AYUSH: Ayurveda, Yoga, Unani, Siddha and Homeopathy. 2022; 11(2): 10–17.
36. White JL, Min K. Specialty polymers & polymer processing. In: Comprehensive Polymer Science and Supplements. 1989; 9: 3-11.
37. Savrikar SS, Lagad CE. Study of Preparation and Standardization of 'Maadhutailika Basti' with special reference to Emulsion Stability. Ayu; 31(1): 1-6.

Cite this article as:
Anusree D, Gopesh Mangal. Evaluation of the Efficacy of Vaitarana Basti in the Management of Amavata: A Case Series. AYUSHDHARA, 2024;11(5):59-67.
https://doi.org/10.47070/ayushdhara.v11i5.1752
Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**
Dr. Anusree D
Panchakarma Vaidya
National Institute of Ayurveda (De Novo), Jaipur.
Email:
dr.anusreedamodaran@gmail.com