Research Article

TO EVALUATE THE COMPARATIVE EFFICACY OF *SVALPAMASHA TAILA NASYA* AND *PARINATA KERIKSHEERADI NASYA* IN *AVABAHUKA* (FROZEN SHOULDER)

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ABSTRACT

Avabahuka is a condition in which vitiated *Vata* lodges in *Amsa Pradesha* and by contracting leads to the *Shosha* of the muscles of the shoulder and upper arm. This disease disturbs the day to day activities of an individual and makes him dependent and very much depressed. *Ayurveda* has a great role to manage this disease successfully. *Nasya Karma* is one of the prime treatments of *Avabahuka.* It is especially indicated for the diseases of the parts in and above the shoulders. In *Nasya Phalasruti* it is mentioned that the skin, shoulders, neck, face, chest become well developed. So *Nasya* helps in developing strength of muscles in shoulder region.

Objective of the study: To evaluate the efficacy of *Svalpamasha taila Parinata keriksheeradi taila* and comparative efficacy of *Svalpamasha taila Nasya* and *Parinata Keriksheeradi Nasya* in *Avabahuka*.

Methods: 30 patients of *Avabahuka,* were randomly divided into two groups, Group A received *Nasya Karma* with *Svalpamasha Taila* for 14 days and the Group B received *Nasya Karma* with *Parinata keriksheeradi taila nasya* for 14 days. With help of assessment tools and gradation of symptoms, the findings of research work were statistically analyzed.

Results: Results of this study shows that group A (*Svaplamashataila*) was more effective in reliving the symptoms of *Avabahuka* than Group B *(Parinata keriksheeradi taila)*. So Group A is statistically significant than Group B.

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INTRODUCTION

Avabahuka is a disease which hampers the day to day activity of an individual. It is one among *Vataja Nanatmajavyadhi*[1] In some classics, two diseases have been mentioned i.e. *Bahushosha*[2] and *Avabahuka*. *Bahushosha* is due to the *Kevalavataja* and *Avabahuka* is due to *Vata* and *Kaphaja* involvement. *Avabahuka* affecting the *Amsa Moola* exhibits the symptoms in *Bahu*. In *Madhava Nidana* two conditions of the disease have been mentioned as *Amsa Sosha*[3] and *Avabahuka. Amsa Sosha* can be considered as the preliminary stage of the disease where loss or dryness of *Sleshaka Kapha* at *Amsa Sandhi* occurs. In the next stage i.e., *Avabahuka*, due to the reduction of *Shleshaka Kapha* and aggravation of *Vata* which shows symptoms like *Shoola* during

movement, restricted movements etc are manifested.

Avabahuka can be correlated to Frozen Shoulder in modern science. Frozen shoulder is defined as an idiopathic condition of the shoulder characterized by the spontaneous onset of pain in the shoulder with restriction of movement in every direction. Prevalence of frozen shoulder was found to be 3.06% in a regional community based study. Frozen Shoulder, periarthritis or Adhesive capsulitis is a disease of shoulder joint, which occur due to micro trauma or sudden travel injury. It is common but ill understood affliction of the Gleno humeral joint without the radiographic changes, characterized by pain and restriction of

all the movements. It is often said that, the pain is often severe enough to disturb the sleep.

Panchakarma therapy primarily aims at cleansing the body of its accumulated impurities and nourishing the tissues. *Nasya karma* is the treatment of choice in *Urdhwa jatrugata vyadhis*[4] and also is indicated in the management of *Avabahuka*. *Nasya* helps in developing strength of muscles in shoulder region.

Considering these facts an attempt is made to study the disease *Avabahuka* in detail and counter act the disease process by adopting suitable therapies.

Objectives

1. To evaluate the efficacy of *Svalpa masha taila Nasya* in *Avabahuka*.
2. To evaluate the efficacy of *Parinata keriksheeradi taila Nasya* in *Avabahuka*.
3. To evaluate the comparative efficacy of *Svalpa masha taila Nasya* and *Parinata Keriksheeradi Nasya* in *Avabahuka*.

MATERIALS AND METHODS

Two groups were made and the result obtained in both individual groups and was compared.

The material used for the study

Svalpa masha taila Contents:[5] 1.*Masha*, 2. *Saindava lavana* and 3.*Tilataila*

Taila will be prepared according to *Mrudu Taila Paaka Vidhi* mentioned by Ayurvedic classics.

Method of preparation of *Svapla masha taila*

Whole grain of *Masha* 4 kg was took and crushed in to paste, added with 16 liters of water Boiled on *Mandagni*, reduced to (4L) *Kashaya* is prepared. 2 Liters of *Tila taila* is added to above mentioned *Kashaya* kept on *Mandagni*. 1kg of *Kalka* prepared with *Saindava lavana*, prepared according to *Taila paka* for *Nasya mrudupaka*.

Parinata keriksheeradi taila[6]

Contents:1.*Haridra* 2.*Shodhita Guggulu* 3.*Keri ksheera* 4. *Jambeera* 5. *Tila taila.*

Taila will be prepared according to *Mrudu Taila Paaka Vidhi* mentioned by Ayurvedic classics.

Method of preparation of *Parinata keriksheeradi taila*

4 liters of coconut milk is prepared by scraping coconut and extracted juice from it, 4 liters of lemon juice was extracted from lemon and added 1 kg paste of each of *Haridra* and *Shodhita guggulu* into it. To this 2 liters of *Tila taila* was added and kept on *Mandagni* for boiling. Boiled till the *taila* remains. *Taila* prepared according to *Taila paka* for *Nasya Mrudupaka*.

Source of data

Patients with classical features of *Avabahuka* were selected randomly from OPD of *Panchakarma* Dept. of S.J.G Ayurveda Medical College and Hospital, Koppal.

Sample Size and Grouping

A minimum of 30 Patients equally distributed in 2 groups.

Group A -15 patients were received *Nasya* with *Svalpa masha taila* for 14 days.

Group B - 15 patients were received *Nasya* with *Parinata keriksheeradi taila* for 14 days.

Inclusion criteria

1. Patients presenting with Classical Signs and Symptoms of *Avabahuka*.

2. Patients fit for *Nasya Karma*.

3. Patients of either Sex and Age group of 20-70 years will be taken.

Exclusion criteria

1. Patients having dislocation of shoulder joint.
2. Patient with fracture.
3. Other systemic disorder like diabetic mellitus, Cancer, TB etc.

Time duration of Study

Group A (*Nasya* group)	*Svalpamasha Nasya*	14 days
	Follow up	14 days
	Total study duration	28 days
Group B (Nasya group)	*Parinata keriksheeradi Nasya*	14 days
	Follow up	14 days
	Total study duration	28 days

Research Design

Selected thirty patients of *Avabahuka* (Frozen shoulder) were randomly divided into two groups as, Group A and Group B.

Group A (*Svalpa masha taila Nasya*) Each patient in this group was subjected to, *Nasya* Karma with *Svalpa masha taila* once in a day.

- Timings - Morning (8am-11am)
- Duration - Up to 14 consecutive days
- *Matra* - 10 drops in each nostril

Group B (*Parinata keriksheeradi taila Nasya*) Each patient in this group was subjected to *Nasya* Karma with *Parinata keriksheraadi taila* once in a day.

- Timings- Morning
- Duration - Up to 14 consecutive days
- Matra - 10 drops in each nostril

Procedure

The whole procedure was under three steps, *Purva, Pradhana* and *Pashchat Karma.*

Purva Karma

Mukhabhyanga with *Tila Taila* and *Nadi Sveda* was given, to the parts of the body above the shoulders.

Pradhana Karma

Patients were made to lie down on the table in supine position with legs slightly raised and head slightly lowered. Eyes of the patients were covered with a band of cloth, and then the 10 *Bindu* of *Svalpa masha taila* or *Parinata keriksheeradi taila* was taken in *Gokarna*, which was slightly warmed with the help of hot water and instilled into one nostril. The other nostril was closed while administering the medicine.

The medicine was instilled slowly in "*Avicchinna dhara*" i.e., an un interrupted stream. The same procedure is repeated in another nostril and care was taken not to shake the head during the procedure. After instilling *Nasya*, soles, neck, palms, etc. will be rubbed mildly and then patients were asked turn to sides and spit out the phlegm.

After the administration of the medicine, patients were advised not to swallow the medicine but should spit it out. It was done till the smell and taste of the medicine disappears. Then, the patients were allowed to relax in same posture for 100 *Matra Kala* without going to sleep.

Paschat Karma

Mild fomentation should be done on forehead, cheeks and neck. The patient is asked to expel out the drug which comes in oropharynx. Medicated *Dhumapana,* three puffs are advocated to expel out the residue mucous lodged in *Kanta* and *Kavala Graha* with *Saindhava Jala* was given to the patient.

Assessment Criteria

Subjective and objective parameters of baseline data and after treatment will be compared and assess the result with paired T test, by using SPSS Software.

Subjective Criteria
  ✓ *Shula*
  ✓ *Stambha*
  ✓ *Sparsha asahishnuta*

Objective Criteria
Restricted movements
  ✓ Flexion
  ✓ Extension
  ✓ Abduction
  ✓ Adduction
  ✓ External rotation
  ✓ Internal rotation

Subjective Criteria and Gradation

Shula

Grade 0 – No pain

Grade 1 – Mild pain & can do strenuous work

Grade 2 – Moderate pain & can do minimum work

Grade 3 – Severe pain & cannot do any work

Stambha

Grade 0 – No stiffness

Grade 1 – Mild & can lift without support

Grade 2 – Moderate & can lift with support

Grade 3 – Severe stiffness & unable to lift

Sparsha asahishnuta (Tenderness)

Grade 0 – No tenderness (None)

Grade 1 – Tenderness to palpation without flinch (Mild)

Grade 2 – Tenderness with flinch to palpation (Moderate)

Grade 3 – Tenderness with withdrawal (Severe)

Objective Criteria and Gradation
Flexion

Grade 0 – Up to 180° (Normal)

Grade 1 – Up to 90° (Mild)

Grade 2 – Up to 45° (Moderate)

Grade 3 – Cannot Flex (Severe)

Extension

Grade 0 – Up to 60°

Grade 1 – Up to 30°

Grade 2 – Up to 15°

Grade 3 – Cannot Extent

Abduction

Grade 0 – Up to 180°

Grade 1 – Up to 900

Grade 2 – Up to 450

Grade 3 – Cannot Abduct

Adduction

Grade 0 – Up to 180°

Grade 1 – Up to 90°

Grade 2 – Up to 45°

Grade 3 – Cannot Adduct

External Rotation

Grade 0 – Up to 135°

Grade 1 – Up to 90°

Grade 2 – Up to 45°

Grade 3 – Cannot Move

Internal Rotation

  Grade 0 – Up to 60°

  Grade 1 – Up to 30°

  Grade 2 – Up to 15°

  Grade 3 – Cannot Move

Observations

Age: 14 patients (46.70%) were between 31-40 years. 30 patients were selected for the study among these 9 (30%) Patients were of 20-30 years age.

Sex: Out of 30 patients of *Avabahuka,* 23 (76.70%) patients were male, while 7 (23.30%) patients were female.

Religion: In present clinical data maximum number of patients i.e., 23 (76.70%) were Hindus and 5 (16.70%) were Muslims and 2 (6.70%) were Christians.

Education: In this series the primary and post graduates were of equal number i.e. 10%, and secondary passed patients were 43.30% and graduate patients were 36.70%.

Socio economic Status: In present clinical data maximum number of patients 25 (73.30%) were from middle socio economic class 5 (26.70%) patients were belongs to rich socio economic class, while 0.00% patients were having poor socio economic status.

Diet: The data, presented shows that, the maximum patients i.e., 23 (76.70%) were taking mixed diet, while only 7 (23.30%) patients were taking the vegetarian diet.

Prakruti: The data shows that, among 30 patients, 20 (66.70%) were having *Vata - Kaphaja Prakruti*, 3 (10%) patients were having *Vata - Pittaja Prakruti* and 7 (23.30%) were having *Pitta-Kaphaja Prakruti*.

Joint Involved: A maximum number of study subjects i.e. 18 (60%) had the *Lakshanas* in the right shoulder joint, 8 (26.70%) had the *Lakshanas* in the left shoulder joint and 4 (13.30%) had the *Lakshanas* in both the shoulder joints.

Duration of Illness: The data of 30 patients of *Avabahuka* shows that, maximum 23 (76.70%) patients were having the less than 6 month history of illness, 5 (16.70%) patients were having the history of present illness of 6 to 12 month, while only 2 (6.70%) were having the history of more than one years of illness.

Agni: The distribution of Agni shows that maximum 22 (73.30%) patients were having *Samagni*, 4 (13.30%) patients were having *Vishamagni,* 3 (10%) patients were having *Mandagni* and while only 1 (3.30%) patient was having *Tikshnagni*.

Vyasana: The distribution of habit shows that maximum 14 (46.70%) patients were not having any habits, 10 (33.30%) patients were having habit of Alcohol, 15 (50%) patients were having habit of smoking and while only 5 (16.70%) patients were having habit of tobacco chewing.

Occupation: The table contains distribution of occupation, which shows that 13 (43.30%) patients were executive, 11 (36.70%) patients were labour and 4 (13.30%) patients were house wife and only 2 (6.70%) patients were students.

RESULTS

Result of group A:

Parameter	Mean		Mean diff (d)	% diff (d)	SD	SE	df	t Value	p Value	Remarks
	BT	AT								
Amshashoola	2.33	1.66	0.67	28.75%	0.723	0.186	14	3.566	P<0.001	HS
Stamba	1.53	1	0.53	34.64%	0.516	0.133	14	3.998	P<0.001	HS
Sparsha asahishnuta	1.73	1	0.73	42.19%	0.703	0.181	14	4.034	P<0.001	HS
Restricted movements	2.06	1.2	0.86	41.74%	0.351	0.009	14	9.536	P<0.001	HS

Analysis of *Amsashoola* score before treatment of 2.33 which reduced to1.66 after treatment, there was 28.75% relief in the symptom with a t-value of 3.566 which was statistically highly significant at the level of $p<0.01$.

Analysis of *Stamba* shows a mean score before treatment of 1.53 which reduced to 1 after treatment, there was 34.64% relief in the symptom with a t-value of 3.998 which was statistically very significant at the level of $p<0.01$.

Analysis of *Sparsha asahishnuta* shows a mean score before treatment of 1.73 which reduced to 1 after treatment, there was 42.19% relief in the symptom with a t-value of 4.034 which was statistically high significant at the level of $p<0.01$.

Analysis of Restricted movement shows a mean score before treatment of 2.06 which reduced to 1.2 after treatment, there was 41.74% relief in the symptom with a t-value of 9.536 which was statistically highly significant at the level of p<0.001.

Result of Group B:

Parameter	Mean		Mean diff (d)	% diff (d)	SD	SE	df	t Value	p Value	Remarks
	BT	AT								
Amshashoola	2.26	2	0.26	11.50%	0.457	0.118	14	2.225	P<0.01	SS
Stamba	1.6	1.53	0.07	4.37%	0.258	0.066	14	0.999	P>0.01	NS
Sparsha asahishnuta	1.46	1.2	0.26	17.80%	0.457	0.118	14	2.225	P<0.01	SS
Restricted movements	1.86	1.46	0.4	21.50%	0.507	0.130	14	3.054	P<0.01	HS

Analysis of *Amsashoola* score before treatment of 2.26 which reduced to 2 after treatment, there was 11.50% relief in the symptom with a t‑value of 2.225 which was statistically significant at the level of p<0.01.

Analysis of *Stamba* shows a mean score before treatment of 1.6 which turned into 1.53 after treatment, there was 4.37% relief in the symptom with a t-value of 0.999 which was statistically not significant at the level of p>0.01.

Analysis of *Sparsha asahishnuta* shows a mean score before treatment of 1.46 which reduced to 1.2 after treatment, there was 17.80% relief in the symptom with a t-value of 2.225 which was statistically significant at the level of p<0.05.

Analysis of Restricted movement shows a mean score before treatment of 1.86 which reduced to 1.46 after treatment, there was 21.50% relief in the symptom with a t-value of 3.054 which was statistically highly significant at the level of p<0.01.

Comparison between Group A and Group B

Parameter	Group	Mean diff (d)	% diff (d)	SD	SE	t Value	p Value	Remarks
Amshashoola	A	0.67	28.75%	0.723	0.186	2.625	P<0.01	SS
	B	0.26	11.50%	0.457	0.118			
Stamba	A	0.53	34.64%	0.516	0.133	4.367	P<0.001	HS
	B	0.07	4.37%	0.258	0.066			
Sparsha asahishnuta	A	0.73	42.19%	0.703	0.181	3.070	P<0.001	HS
	B	0.26	17.80%	0.457	0.118			
Restricted movements	A	0.86	41.74%	0.351	0.009	4.085	P<0.001	HS
	B	0.4	21.50%	0.507	0.130			

***Amsashoola*:** There is statistically significant result between Group A and Group B at the level p<0.05. The percentage relief difference between the two groups is 17.25%. This shows that Group A therapy is more effective than Group B.

Stamba: There is highly statistically significant result between Group A and Group B at the level p<0.001. The percentage relief difference between the two groups is 30.27%. This shows that Group A therapy is more effective than Group B.

***Sparsha asahishnuta*:** There is highly statistically significant result between Group A & Group B at the level p<0.01. The percentage relief difference between the two groups is 24.39%. This shows that Group A therapy is more effective than Group B.

Restricted movement: There is high statistically significant result between Group A & Group B at the level p<0.001. The percentage relief difference between the two groups is 20.24%. This shows that Group A therapy is more effective than Group B.

DISCUSSION

Avabahuka is one among those *Vata Vyadhi*, which results in *Karmakshaya* of *Bahu*. All Ayurvedic classics explain about the *Nasya* in the management of *Urdhwa jatru vyadhis*. *Skandha sandhi* i.e., *Amsasandhi* being considered in *Jatru* gets affected in *Avabahuka.* Thus, *Nasya* becomes the line of treatment here.

The specific *Nidana* of *Avabahuka* is not separately enlisted. The involvement of *Vata* is

invariable in *Avabahuka* and as it is a *Vataja Nanatmaja Vikara,* the *Nidana* of *Vatavyadhi* in general is also being considered as the *Nidana* of *Avabahuka.* All the *Nidanas* may be subdivided into *Aharaja, Viharaja, Agantuja, Manasika* etc. Indulgence of various etiological factors leads to the accumulation of the *Vata Dosha* in the *Amsa pradesha* and cause the *Shoshana* of the *Amsabandha* or *Sira akunchana,* which in turn leads to manifestation of *Avabahuka.*

In a developing country like India where agriculturists and labourers form a major population, the incidence of *Avabahuka* is more. Even though this disease not a life threatening one, but it hampers the daily activity of the upper limb.

DISCUSSION ON RESULT

In the present study, the effect of the therapy was assessed on each sign and symptom of *Avabahuka,* being scored before and after treatment and were assessed statistically for the level of significance.

Effect on pain: - pain was reduced by 28.75 % in Group A & 11.50% in Group – B. Both the groups showed statistically significant p-value of < 0.01.

Effect on stiffness: - Improvement of Stiffness in Group A was up to 34.64% & in Group B up to 4.37%. Result of both the groups was highly significant. *Stambha* is produced by *Sheetaguna.*

Effect on Range of motion: - Range of motion was increased by 41.74 % in Group A and 21.50% in Group B. Restricted movement is produced by muscular spasm which is mainly due to pain.

Effect on Local Tenderness: - Local tenderness was reduced by 42.19% in Group A and 17.80% in Group B.

Overall effect of the therapy

Out of 30 patients of *Avabahuka* treated with Two varieties of *Nasya Karma,* 50% patients got poor responds, 40% patients got mild responds and 10% patients got moderate responds, but after follow up, in Group A (53.3%) patients got good responds, 40% patients got moderate respond and 6.66% patient got mild respond and in Group B, 66.6% got only mild improvement and remaining 33.3% got poor responds.

It shows that Group A i.e. *Svalpa masha taila Nasya* got 71.6% relief in the symptoms of *Avabahuka* than Group B i.e. *Parinata keriksheeradi taila Nasya* which is 38.4%) relief in the symptoms.

It may be inferred that because of *Dviparihaarakaala* of *Nasya karma* gives good result after follow up of 14 days than the result immediately after treatment.

CONCLUSION

1. *Avabahuka* can be co-related to Frozen Shoulder based on the clinical features mentioned in classics.

2. Overall, *Svalpa masha taila Nasya* (Group A) is more effective clinically and statistically than *Parinata keriksheeradi taila Nasya* (Group B) in almost all the parameters.

3. The present study shown highly significant results which indicate that therapeutic effects like *Vedanasthapana, Sthambhara,* i.e. improvement in degree of shoulder joint movement which is achieved to great extent by *Nasya karma.*

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