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Evaluation of the effect of *Bala Tailam Nasya* and *Baladi Kwatha Pana* in the management of *Avabahuka* - A Pilot Study

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ABSTRACT

Avabahuka is a disease mainly affects the *Amsa Sandhi* (shoulder joint) which is painful, affecting the normal routine life style of an individual. The sedentary and restless lifestyles of people, and lack of priority to physical exercise, have an effect on the body that can cause disease. The main *Dosha* involved *Avabahuka* is *Vatadosha* and the treatment adopted for this are like *Snayu-Sandhi-Asthi-Gata-Vata* treatment. In Frozen Shoulder synovial inflammation occurs followed by capsular fibrosis. The shoulder joint becomes gradually painful and stiff with a reduction in range of motion. The current pilot study aim is to investigate the impact of *Nasya* with *Baladi Taila* and *Baladi Kwath* in *Avabahuka*. There are references for *Nasya Karma* in *Avabahuka*. *Acharya Sushruta* and others have considered it as *Vataja Vikara*. *Amsa Shosha* can be considered a pre-disease stage in which loss or dryness of the *Shleshaka Kapha* is found, as well as other symptoms like *Shula* during movement of shoulder joint.

Key words: *Nasya, Baladi Taila, Baladi Kwath, Avabahuka, Frozen Shoulder*

INTRODUCTION

Vata is considered to be the most important component in the maintenance of body physiological function. The *Vatavyadhi* is caused by the vitiation of *Vata Dosha Vikrita Vata Janita Asadharana Vyadhi Vata Vyadhi*. *Vatavyadhi* is considered as one of the *Ashta Mahagada*,^[1] makes the consequences generated by *Avabahuka* self-explanatory. *Avabahuka* is *Vatajvikara*, but it is not included in the *Vata-*

Naanatmaja Vyadhi by *Acharya Charaka*^[2,3] (disease caused only by vitiated *Vata*).^[4] According to *Sushruta*^[5] and *Vagbhatta*,^[6] *Avabahuka* is a *Vatavyadhi* (illness caused by *Vata Dosha* vitiation). *Madhavkar* describes the *Avabahuka* in *Vatavyadhi* chapter of *Madhav-Nidan*.

Avabahuka is consists of two words *Ava* and *Bahu*. *Ava* means *Viyoga, Vikratau*, which means dysfunction or separation and *Bahu* refers to upper limb that is one among the *Shadanga*.

The common features of *Avabahuka* are *Sira-Sankocha* at *Ansha-Sandhi*, loss of functional activity of arm (*Baahu- Praspandithar*), atrophy of arm (*Bahu- Shosha*) (*Anshamool Sthitovaayu Sira-Sankochyatatragaah, Baahupraspanditharam Janyatayavabaahukam, Karmakshaya of Bahu* (arm).

Various Etiological factors such as *Ruksha, Laghu*, etc., as well as *Atibharavahana*, produce *Vata* vitiation directly. In another approach, *Kapha Prakopaka Nidanas* such as *Atisnigdha, Atiguru Dravya*, etc. augment the *Vikruta Kapha*, resulting in the

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Kaphavritavata condition. The *Vikruta Vata Dosha* accumulates in the bio channels (*Srotas*) in both ways and exhibits symptoms. *Sthana Samsraya Avastha* of *Vyadhi* occurs with the localization of aggravated *Vata* in the specific *Dhatu*, that is, *Dosha Dushya Sammurachana*, which occurs in the specific organ.

Avabahuka appears owing to a depletion of tissue elements (*Dhatu Kshaya*) as well as *Samsrushta Dosha*. *Amsa Shosha* can be thought of as the preclinical stage in which the *Shleshaka Kapha* is loss or dry from the shoulder joint. Because of which, symptoms such as *Shoola* during the movement of the joint, restricted movement of joint and other manifestations occur.

With modern co relation and explanation Shoulder pain is estimated to affect 16-26% of the population. It is the third most common reason for primary care musculoskeletal consultation. Prevalence of frozen shoulder is 3-5% in general population.^[7] Females are more affected than male.^[8] The incidence of frozen shoulder is 2-4 times higher in diabetes than in the general population.^[9]

Commonly Analgesics, corticosteroids, and anti-inflammatory medications are used for frozen shoulder patients. This method may provide a temporary cure but not long-term pain relief. Given the above frequency and incidence rates, a treatment with a low cost and few adverse effects is necessary.

Ayurvedic treatment modality for *Avabahuka* includes *Nasya Karma*, *Snehapana*, *Sneha* intake after meal, and local *Abhyana-Swedana* (oleation - sudation) is indicated.^[10]

The primary goal of *Panchakarma* therapy is to cleanse the body of accumulated toxins and impurities with the help of *Shodhana* therapy, while also nourishing the tissues. *Nasya Karma* is the preferred treatment in *Urdhwa Jatrugata Vyadhis*,^[11] and it is also advised in the treatment of *Avabahuka*. *Nasya* aids in the development of strength of shoulder muscle.

Baladi Taila^[12] which is described in *Chakradatta* for *Avabahuka* contains drugs having *Vata-Kaphara* properties and *Baladi Kwath*^[13] (containing *Choorna* of *Parijata Patra*, *Baalamoola Churna* and *Kraunch Beej Churna*) is given.

AIM AND OBJECTIVE

To study the effect of *Baladi Taila Nasya* and *Baladi Kwatha* in *Avabahuka*.

MATERIALS AND METHODS

Data Source - 10 Patients of either sex diagnosed with *Avabahuka* from the OPD/ IPD of Pandit Khushilal Sharma Ayurveda Hospital, Bhopal were selected for the study.

Criteria for the Selection of the Patients

The patients presenting with the signs and symptoms of *Avabahuka* according to Ayurvedic and modern texts were selected from the OPD of *Panchakarma* of Pt. Khushilal Sharma Ayurvedic College and Institute for the study.

Study Design

The present study is a pilot clinical study conducted in the department of *Panchakarma* of Pt. Khushilal Sharma Govt. Ayurvedic College and Institute Bhopal.

Study Duration - 21 Days

Inclusion Criteria

1. *Avabahuka* diagnosed according to the classical signs and symptoms described in *Ayurveda*.
2. Patients of both sexes within the age group of 20 - 60 years.

Exclusion Criteria

1. Systemic diseases presented with *Avabahuka* as a complication
2. Patients with a history of fracture of the affected hand
3. Pregnancy and lactating women are excluded.

Criteria for assessment

The patients' improvements were evaluated based on the relief signs and symptoms. To assess the drug's efficacy, the ranges of motion were assessed using a Goniometer Scale.

Objective Parameter^[14]

Range of motion of shoulder joint	Normal Range (in degrees)
Flexion	180
Extension	60
Abduction	180
Adduction	45
Lateral Rotation	90
Medial Rotation	90

Subjective Parameters^[15]**1. Bahupraspandita Hara**

SN	Symptom	Score
1.	Can do work without being affected	0
2.	Can do strenuous work with difficulty	1
3.	Can do daily routine work with great difficulty	2
4.	Cannot do any work	3

2. Shula

SN	Symptom	Score
1.	No pain in moving hand	0
2.	Mild pain, can do strenuous work with difficulty	1
3.	Moderate pain, can do normal work with support	2
4.	Severe pain, unable to do any work with hand	3

3. Atopa

SN	Symptom	Score
1.	No Atopa	0
2.	Palpable Atopa with sound	1
3.	Audible from a little distance	2

4.	Audible and palpable	3
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4. Amsha Shosha

SN	Symptom	Score
1.	No wasting	0
2.	Mild wasting, can do work	1
3.	Moderate wasting, works with difficulty	2
4.	Severe wasting, cannot move affected region	3

5. Stambha (stiffness)

SN	Symptom	Score
1.	No stiffness	0
2.	Mild, has difficulty in moving the joints without support	1
3.	Moderate, has difficulty in moving, can lift only with support	2
4.	Severe, unable to lift	3

Criteria for assessment of the overall therapy**Complete relief**

Complete relief in the complaints of patients, along with elevation of shoulder joint up to 180° and flexion and abduction of the joint up to 90°.

Marked improvement

More than 75% relief in the complaints as well as significant improvement in the elevation of joint up to 135°, and flexion and abduction up to 60°.

Moderate improvement

More than 50% relief in the complaints along with improvements in elevation of joint up to 90° and flexion and abduction of joints up to 30°.

Mild Improvement

Twenty-five to fifty percent reliefs in the complaints of the patient.

Treatment Regimen

Nasya oil: Bala Taila

SN	Drug	Botanical name	Quantity
1.	Bala	<i>Sida cordifolia</i>	4.8 kg
2.	Chinnaruha	<i>Tinospora cordifolia</i>	1.2 kg
3.	Rasna	<i>Pluchea lanceolata</i>	600 g
4.	Water	-	12.0 liters, boiled and reduced to 3.072 liters
5.	Mastu	Supernatant liquid of curds	3.072 liters
6.	Ikshurasa	<i>Saccharum officinarum</i>	3.072 liters
7.	Taila		3.072 liters
8.	Ajaksheera	Goat milk	1.563 litres
9.	Daru	<i>Cedrus deodara</i>	48 gm
10.	Ela	<i>Elettaria cardamomum</i>	48 gm
11.	Sarala	<i>Pinus roxburghii</i>	48 gm
12.	Manjishta	<i>Rubia cordifolia</i>	48 gm
13.	Agaru	<i>Aquilaria agallocha</i>	48 gm
14.	Chandana	<i>Santalum album</i>	48 gm
15.	Padmaka	<i>Prunus pudum</i>	48 gm
16.	Atibala	<i>Abutilon indicum</i>	48 gm
17.	Musta	<i>Cyperus rotundus</i>	48 gm
18.	Mudgaparni	<i>Phaseolus trilbbus</i>	48 gm
19.	Mashaparni	<i>Teramnus labialis</i>	48 gm
20.	Harenu	<i>Vitex negundo</i>	48 gm
21.	Yashti	<i>Glycyrrhiza glabr</i>	48 gm
22.	Surasa	<i>Ocimum sanctum</i>	48 gm
23.	Vyaghranakha	<i>Capparis zeylanica</i>	48 gm

24.	Rishabhaka	<i>Manilkara hexandra</i>	48 gm
25.	Jivaka	<i>Malaxis acuminata</i>	48 gm
26.	Palasha	<i>Butea monosperma</i>	48 gm
27.	Kasturi	Musk	48 gm
28.	Neelika	<i>Indigofera tinctoria</i>	48 gm
29.	Jati	<i>Myristica fragrans</i>	48 gm
30.	Sprikka	<i>Delphinium zail</i>	48 gm
31.	Kumkuma	<i>Crocus sativus</i>	48 gm
32.	Shaileya	<i>Parmelia perlata</i>	48 gm
33.	Katphala	<i>Myrica nagi</i>	48 gm
34.	Ambu	<i>Pavonia odorata</i>	48 gm
35.	Twak	<i>Cinnamomum zeylanicum</i>	48 gm
36.	Kundururu	<i>Boswellia serratar</i>	48 gm
37.	Karpooora	<i>Cinnamomum camphora</i>	48 gm
38.	Turushka	<i>Hyoscyamus niger</i>	48 gm
39.	Shrinivasaka	<i>Pinus roxburghi</i>	48 gm
40.	Lavanga	<i>Syzigium aromaticum</i>	48 gm
41.	Nakha	<i>Capparis zeylanica</i>	48 gm
42.	Kankola	<i>Piper cubeba</i>	48 gm
43.	Kushta	<i>Saussurea lappa</i>	48 gm
44.	Mamsi	<i>Nardostachys jatamansi</i>	48 gm
45.	Priyangu	<i>Callicarpa macrophylla</i>	48 gm
46.	Sthauneya	<i>Clerodendrum infortunatum</i>	48 gm
47.	Tagara	<i>Valeriana wallichii</i>	48 gm
49.	Dhyama	<i>Anogeissus latifolia</i>	48 gm
50.	Vacha	<i>Acorus calamus</i>	48 gm
51.	Madanaka	<i>Randia spinosa</i>	48 gm

52.	<i>Plava</i>	<i>Cyperus bulbosus</i>	48 gm
53.	<i>Nagakeshara</i>	<i>Mesua ferrea</i>	48 gm

Oral Medicine

Kashayam made of *Bala* (*Sida cordifolia*) 1 part, *Parijata* (*Nyctanthes arbortristis*) 1 part and *Kapikachhu* (*Mucuna pruriens*) 1 part, 40 ml twice a day empty stomach.

SN	Drug	Botanical name	Part used	Used Form	Quantity
1.	<i>Bala</i>	<i>Sida cordifolia</i>	<i>Moola</i>	<i>Churna</i>	1 part
2.	<i>Parijata</i>	<i>Nyctanthes arbortristis</i>	<i>Patra</i>		1 part
3	<i>Kapikachhu</i>	<i>Mucuna Pruriens</i>	<i>Beeja</i> (Seed)	<i>Churna</i>	1 part

Method of Nasya Karma^[16]

Nasya Karma can be explained in the following three headings as mentioned in the classics.

Poorva Karma

- 1. Collection of necessary facility** - It includes points such as *Oushadhi Sangraha*, *Nasya Yantra*, *Atura Vaya*, *Kala*, *Atura Siddhata*.
- 2. Preparing the patient** - The patient was told not to resist natural urges. He should be empty stomach before performing the *Nasya Karma*. After that, the patient is moved to a pleasant room that is free of dust, strong breezes, and direct sunshine.
- 3. Performing Abhyanga & Swedana** - The patient is positioned on the table in the Supine Position for the *Stanika Abhyanga/Snehana*. The therapist stands at the head end of the table, facing the foot, to perform *Abhyanga* and *Swedana*. The patient's face and neck are anointed with lukewarm oil, and then the face and anterior neck are massaged. Linear Thumb movements are used to massage the forehead, brows, nose, chin, and maxillary area. The cheek and temporal region are massaged using circular palm movements in both clockwise and

anticlockwise directions. The flat of the palms is moved from the base of the neck to the Mandible to massage the anterior of the neck.

For the purpose of *Sthanika Swedana*, *Nadi Sweda* was done with hot water containing *Patra* of *Eranda*, *Vasa*, *Nirgundi* and *Dashamula*. *Sweda* is performed over the parts of the body above the shoulder, excluding the patient's eyes. The aim for doing *Abhyanga* & *Swedana* is for to move *Doshas* from *Shakha* to the *Koshtha*.

Pradhana Karma

- 1. Positioning the Patient:** the patient is asked to be in supine position with the head in little lower position. The table used for *Nasya Karma* have facility for lowering the head portion.
- 2. Administering the Medicine:** while standing at the head end of table the tip of the nose is elevated with left Thumb and then allows to drop 8-8 drops of lukewarm *Baladi Tailam* from Dropper in an uninterrupted manner called '*Avicchinna Dhara*' into each Nostrils one after the other. After dropping the Oil into one Nostril, the Patient is asked to take deep inhalation so that the medicine reaches deep inside the Nose. The other nostril must be closed during administration of the medicine in one nostril.

Pashchata Karma

After administration of the medicine, the patient is strictly asked not to swallow the medicine, but to spit it out. Then the patient is allowed to relax in the same posture for 100 *Matra Kalas*, without going to sleep. The Patient is asked to spat out the medicine that reaches the throat. *Swedana* is repeated on the face after *Nasya*. Gentle massage on forehead, palms and soles of the Patient, then he asked to take rest in for several minutes. Then he allowed wash mouth and face with hot water.

Statistical Analysis

For assessing the improvement of symptomatic relief and to analyze it statistically, the observations were recorded before and after treatment. The mean, mean difference, SD, SE and Wilcoxon sign rank test were calculated from the observations recorded.

RESULT

Symptoms	Mean		MD	Wilcoxon sign rank	SD	SE	P value	Result
	BT	AT						
Bahupras pandita Hara	2.1	1.1	1	45	0.5676	0.1795	0.0039	Very Significant
Shula	2.2	1	1.2	45	0.6325	0.2000	0.0039	Very Significant
Atopa	1.5	1.1	0.4	10	0.5164	0.1633	0.1250	Not Significant
Amsa Shosha	2	1.3	0.7	21	0.6749	0.2134	0.0313	Significant
Stambha	2.1	1	1.1	45	0.5676	0.1795	0.0039	Very Significant

Objective Parameter

Range of motion of shoulder joint	Normal Range (in degrees)	BT (Mean)	AT (Mean)
Flexion	180	110	140
Extension	60	20	30
Abduction	180	100	135
Adduction	45	15	30
Lateral Rotation	90	40	55
Medial Rotation	90	50	60

The drug *Baladi Taila Nasya* and *Baladi Kwath* had a moderately significant effect ($P < 0.01$) on the symptom *Bahupraspandita Hara* (53.33%) and ($P < 0.05$) on *Shula* (26.66%). the therapy showed 10 % relief On *Atopa*, 20% relief on *Amsa Shosha*, and 30% relief on *Stambha*.

Overall assessment of the intervention

SN	Overall assessment	Percentage relief	No. of patients	Percentage
1.	Complete relief	100%	00	00
2.	Marked improvement	>75%	02	20%
3.	Moderate improvement	>50%	05	50%
4.	Mildly improved	>25%	03	30%
5.	No improvement	00%	00	00%

DISCUSSION

Avabahuka-Vata is aggravated by either *Avarana* or *Dhatu Kshaya*. *Snehan*, a kind of *Brihmana Nasya Karma* is particularly beneficial in the disease *Avabahuka* due to *Dhatu Kshaya*.

Absorption of the medicaments in *Nasya* mainly occurs via three pathways: Vascular, neural and lymphatic. The instilled medicine moves up the channels to the *Shringataka*, spreads all over the head, channels of eyes, ears, and throat there by removing *Doshas*. Thus cures the diseases affecting the *Urdhva Jatru*.^[17] According to the commentator *Indu*, the *Shringatakamarma's* precise *Sthana* is "*Shiraso Antarmadhya Murdha*," which might be considered for the middle cranial fossa. The expulsion of morbid *Doshas* from supraclavicular parts by *Nasya* administration is also explained using the example of *Munja* and *Ishika*, where the drug administered as *Nasya* enters the head and expels morbid *Doshas* as *Ishika* is removed after removing the fibrous coating of *Munja* adhered to it.^[18]

Sthanika Abhyanga and *Swedan* improve medication absorption increasing blood circulation. As the efferent vasodilator nerves expand to the face's superficial surface, they are stimulated by fomentation, which may enhance blood flow to the

brain and hence increase the potency of the *Bala Tail* in the *Nasya* process.

The drugs used for the *Brihana Nasya* are has the *Guna* like *Snigdha*, *Sukshama*, *Sara*, *Ushna* etc. Which are antagonistic to *Gunas* of *Vata* and thus palliates the *Vata Dosha*. The *Bala* oil *Nasya* that is selected for the study mainly contains drugs having *Vatahara*, *Shula Prashamana*, *Shothahara*, *Brimhana* and *Balya* actions and widely indicated for the purpose of *Vata Vikaras*.

- *Bala* oil contains medicines like *Bala* (*Sida Cordifolia*), *Chhinaruha* (*Tinospora cordifolia*), *Rasna* (*Pluchea Lanceolata*) *Vacha* (*Acorus Calamus*).
- *Bala* serves the function of supplying adequate energy to the muscular tissue. In *Baladi Taila* as well, it has effective supporting qualities such as *Madhura Rasa* and *Madhura Vipaka* in showing the *Vata Hara* effect.

Chinnaruha (*Tinospora cordifolia*) contains alkaloids, glycosides, flavonoids, steroids and terpenoids in the aerial part of the plant. So, the observed analgesic activity may be attributed to any of these phytoconstituents. There are also reports of analgesic activity of flavonoid which is mediated by inhibiting the production of prostaglandins

Rasna is considered as '*Vata-Samanam*' (diseases involving nervous system) '*Rasayana*' (herb for rejuvenation). It has antipyretic, analgesic effect. *Rasna* is used to prevent the swellings of joint in arthritis, rheumatism and neurological diseases. The roots are antipyretic, bitter, laxative and thermogenic and are used for allaying the pain. Plant extract is used as a cooling agent in summer.^[19,20] *Tila Taila*: It is the main base ingredient for the other drugs because it is *Yogavahi* and carries all essential ingredients into the system by virtue of its *Sukshama* and *Ashukari Guna*.

- The decoction *Baladi Kwatha* contains three ingredients - *Bala*, *Parijata* and *Kapikachhu* that mainly helps in relieving the pain and increases the strength of the shoulder joint.

***Kapikachhu* (*Mucuna pruriens*):** *Kapikachhu* is a *Vatahara Dravya* having its own effective activity and

attributes like *Snigdha*, *Madhura*, and *Ushna*. *Kapikachhu* seeds contains high amount of protein, thus it is used internally as, which tones the muscle and functions as a nervine tonic, which is the most crucial necessity in *Avabahuka*.

***Parijat* (*Nyctanthes arbortristis*)** is a natural vasodilator, it is also used to treat painful muscle spasms, sore muscles etc.

Overall *Baladi Kwath* is effective in reducing pain by alleviating the *Vata* and improving movements of the affected shoulder joint in *Avabahuka* (frozen shoulder).

CONCLUSION

A clinical trial with *Baladi Taila Nasya* and *Baladi Kwath* orally has shown encouraging results in the improvement in the symptoms of *Avabahuka*. Not many complications were observed in the patients at the end of the study. So, this treatment protocol can be a good option for the management of *Avabahuka* (Frozen Shoulder).

In the current study, as it was a pilot study, the sample was very small and the follow-up period was short, it may be difficult to arrive at a conclusion about the effectiveness and safety of the treatment, a clinical trial with a big sample size and a long follow-up period will be needed.

REFERENCES

1. Charaka Samhita. Ayurveda Deepika commentary by Chakrapani datta. In: Yadav T, editor. Indriya sthana, 11/8-9. Fourth Edition. Varanasi: Chaukhamba Orientalia; 1994. pp. 8–9.
2. Shastri Pandit Kashinath, Chaturvedi Gorakhanatha Charaka Samhita of Agnivesh, edited with vidyotini hindi commentary, Chaukhambha Bharati Academy; part-1; Sutra Sthana 1992; 20/11:399.
3. Tripathi Bramhanand. Charaka Samhita of Agnivesh, edited with Charaka Chandrika hindi commentary, Chaukhambha Surbharati Prakashan; part-2; Chikitsa Sthana. 1998;28/98:956
4. Shastri Pandit Kashinatha and Chaturvedi Gorakhanatha, Charaka Samhita of Agnivesh, edited

- with vidyotini hindi commentary, Chaukhambha Bharati Academy; part-1; 1992; Sutra Sthana 20/11:399.
5. Sushrut: Sushruta Samhita, edited with Ayurvedatattvasandeeepika Hindi commentary by Shastri Kaviraj Ambika Dutta. Varanasi India: Chaukhambha Sanskrit Sansthan; part-1; 2014; NidanSthana 1/82:304
 6. Kanjiv Lochan, Vagbhata: Astanga Hridaya English commentary; Chaukhambha Publications; vol-2; 2017; Nidhanasthana 15/43:140
 7. Manske RC, Prohaska D. Diagnosis and management of adhesive capsulitis. Curr Rev Musculoskelet Med. 2008. 1007 PMID: 19468904 DOI: /s12178-008-9031-6;1:180–189.
 8. Chokkalingam M, Saradha S, Navitha A. Incidence and clinical profile of patients with a frozen shoulder after cardiac surgery y. J Clin Prevent Cardiol 2017; 6(4):142.
 9. Prevalence and determinants of frozen shoulder in patients with diabetes: a single center experience from Pakistan. Cureus. 2017. 9(8):1544.
 10. Nirmal, et al. Management of Avabahuka (Frozen Shoulder) with Abhyanga Swedana, Pratimarsha Nasya and Ayurveda Medicines: A Case Study, World Journal of Pharmaceutical Research. 2017;6(8):2099-2103. ISSN 2277–7105.
 11. Anna Moreshwar Kunte and Krishna Ramachandra Shastri Navre, Asthanga Hridaya, Varanasi; Chaukhambha Surabharati Prakashan; 2004; p. 287
 12. Kaviraj Atridev Gupta, Vagbhata: Astanga Hridaya vidyotini Hindi commentary; Chaukhambha Publications; vol-1; 2017; Chikitsasthana 21/73-81:pg. 422
 13. Indra Dev Tripathi; Chakradatta; chakradatta Samhita; Savimarsha Vaidyaprabha Hindi commentary; edited by Acharya Ramnath Dwivedi; Chaukhambha Publications; vol-1; Chikitsaparakarana verse26:pg. 135
 14. Carolyn K. (2013) Therapeutic Exercise –foundations and techniques, New Delhi: Jaypee Brothers Medical Publishers.
 15. Patil P. (2014, May 2) Effect of Masha-Saindhava Taila in Avabahuka (IJAM).
 16. https://www.researchgate.net/publication/319851664_Effects_of_Kumkum_Nasya_Crocus_sativus_L_formulation_on_BhruShankha_Pradesh_Shula_Temporal_Headache_Suryawarta_Roga_Myasthenia_Gravis_Ardhaw_bhedaka_Roga_Migraine_Headache.
 17. Ashtanga Sangraha, Sasilekha commentary, Sutra sthana, 29th chapter, Govt of Kerala, (Govt. Ayurveda college, Thiruvananthapuram) 1982:399.
 18. Ashtanga Sangraha, Sasilekha commentary, Sutra sthana, 29th chapter, Govt of Kerala, (Govt. Ayurveda college, Thiruvananthapuram) 1982:403.
 19. Charkapani tika on Charaka Samhita, Chaukhambha Bharati Academy, Varanasi, Reprint 2005: 102.

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