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A comparative clinical study of the effect of *Upanaha Sweda* by using *Kottamchukkadi Churna* & *Grihadhumadi Churna* in *Janusandhigata Vata* w.s.r. to Osteoarthritis of Knee Joint

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ABSTRACT

As per Ayurveda, *Janusandhigata Vata* is one among *Vatavyadhi* and can be compared with Osteoarthritis of Knee Joint in Modern Medicine with respect to the similarity of symptoms. **Aims and Objectives:** To evaluate and compare the effect of *Grihadhumadi* and *Kottamchukkadi Upanaha* in *Janusandhigata Vata*. **Methods:** Single blind randomized comparative clinical study allocated into 2 equal groups as A and B. **Procedure:** In Group A, *Grihadhumadi Upanaha Sweda* done for 7 days and in Group B, *Kottamchukkadi Upanaha Sweda* done for 7 days. Patients were examined as per the assessment criteria on 1st day before treatment, 8th day after completion of the treatment and 15th day as part of follow up. **Observations and Results:** Group A showed statistically highly significant effect in most of the criteria's like Swelling, Stiffness, Tenderness, Visual Analogue Scale (VAS), Range Of Movements (ROM) and WOMAC INDEX. Group B showed statistically highly significant effect in Pain and Crepitation.

Key words: *Janusandhigata Vata*, *Osteoarthritis of Knee joint*, *Upanaha Sweda*, *Dhanyamla*, *Grihadhumadi Churna*, *Kottamchukkadi Churna*.

INTRODUCTION

Sandhigata Vata is one among the prime cause of disability in human beings which is characterized with the symptoms of *Sandhi Shotha*, *Sandhi Sula*, *Vatapurna Drutisparsha* and *Prasarana Akunchanayoh Vedana*.^[1] According to Modern Medicine, Osteoarthritis possesses the symptoms like pain, swelling, stiffness and difficulty in movements which are similar to *Sandhigata Vata*.^[2] As per classics of

Ayurveda, treatment principles of *Sandhigata Vata* are *Snehana*, *Swedana*, *Upanaha*, *Bandhana* etc. which can be applicable for *Janusandhigata Vata* also.^[3] In the present study, *Upanaha Sweda* has taken as the treatment modality as it is palliative in nature, reduces pain and stiffness in short period of time because of its composition with different drugs with different properties. So *Upanaha Sweda* has its own role in the management of *Sandhigata Vata*. As per Ayurveda '*Sthanat Jayet Hi Purvam*' is one of the main principles of treatment and therefore *Upanaha Sweda* can give excellent result in *Janusandhigata Vata* without interfering with systemic state of the body.

Acharyas mentioned different groups of drugs for *Upanaha Sweda* based on *Dosha* predominance. As per previous researches, *Kottamchukkadi Churna Upanaha Sweda* has significant result in the management of *Janusandhigata Vata* as it contains drugs like *Kushta*, *Nagara*, *Vacha*, *Shigru*, *Lashuna*, *Himsra*, *Devadaru*, *Siddhartha*, *Rasna* and

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Chinchapatra which mentioned in *Tailaprakarana* of *Sahasrayogam*.^[4] So present study has been carried out to evaluate the efficacy of *Grihadhumadi Churna Upanaha Sweda* over *Kottamchukkadi Churna Upanaha Sweda* in *Janusandhigata Vata*. *Grihadhumadi Churna* is told in *Vatarakta Chikitsa* of *Charaka Samhita* and *Astanga Hridaya* and it contains the drugs *Grihadhuma*, *Vacha*, *Kushta*, *Shatapushpa*, *Haridra* and *Daruharidra*.^[5]

Generally for preparation of *Upanaha* we need medicines in *Churna* form, any of *Drava Dravyas* like *Kashaya*, *Dhanyamla* etc., *Saindhava Lavana* and water. *Upanaha* can be prepared in 2 ways as either *Saagni* or *Niragni* method. In *Saagni* method, *Upanaha* can be prepared by mixing all the ingredients in proper quantity and make a paste by boiling in *Mandagni*. In *Niragni* method, *Upanaha* can be prepared just by mixing all the ingredients with enough quantity. This thick paste of *Upanaha* has to be applied on the affected body part in Luke warm form after *Amridu Abhyanga* with *Taila*. Then it has to be wrapped with any of the *Vatahara Patras* like *Eranda*. After that it should be bandaged with Cotton Khora cloth and to be tied it with threads. Precautions to be taken for the bandage when tying as it should be neither too tight nor too loose. After applying *Upanaha* for the first time, physician should observe the patient for any of the discomforts like itching etc. and should manage accordingly.

As per classics, *Upanaha* done in the morning should be removed in the evening and vice versa. So it should be retained in the area minimum for 12 hours for the best result.^[6]

In current study *Upanaha Sweda* has done in *Saagni* method as it is generally observed that *Saagni Upanaha* is more effective in *Sandhigata Vata*. *Dravadravya* taken in this study is *Dhanyamla*. *Upanaha* has kept on the area for 12 hours and the treatment period was 1 week. Follow up has taken on 8th day and 15th day of the study. When all the ingredients were put together, it showed better improvement in properties like *Shulahara*, *Shothahara*, *Vedanastapana* etc.

AIMS AND OBJECTIVES

1. To study the efficacy of *Upanaha Sweda* in *Janusandhigata Vata*.
2. To study the efficacy of *Grihadhumadi Churna Upanaha Sweda* in the management of *Janusandhigata Vata*.
3. To compare the efficacy of *Grihadhumadi Churna Upanaha Sweda* and *Kottamchukkadi Churna Upanaha Sweda* in the management of *Janusandhigata Vata*.

MATERIALS AND METHODS

Source of Data: *Panchakarma* OPD and IPD of Muniyal Institute of Ayurveda Medical Sciences and Hospital. Manipal.

Sample Size: 40 clinically diagnosed patients of *Janusandhigata Vata* were selected randomly based on inclusion criteria.

Study design: Single Blind Randomized Comparative Clinical Trial

Group A - Treated with *Grihadhumadi Upanaha Sweda*

Group B - Treated with *Kottamchukkadi Upanaha Sweda*

Diagnostic Criteria

- *Sandhi Shula* - Knee Joint Pain
- *Sandhi Shotha* - Swelling of the Knee Joint
- *Sandhi Stabdhatata* - Knee Joint Stiffness
- *Sandhi Atopa* - Crepitation
- *Prasarana Akunchanayoh Asamarthyah* - Limited Range of Movements

Inclusion Criteria

1. Patients between the age group of 30-70 years of either gender.
2. Patients suffering from Signs and Symptoms of *Janusandhigata Vata*.
3. Patients fit for *Swedana* Therapy.

Exclusion Criteria

1. Patients less than 30 and more than 70 years of age.
2. Patients of tuberculosis, rheumatoid arthritis, psoriatic arthritis, structural deformity and any other systemic diseases.
3. Patients unfit for *Swedana* Therapy.

Assessment Criteria

This has been carried out by the following parameters like Pain, Crepitus, Swelling, Range of Movements, Stiffness, Tenderness, Visual Analogue Scale and WOMAC Index.

Table 1: Assessment Criteria

Parameters	Findings	Gradings
Pain	No Pain	0
	Mild Pain	1
	Moderate Pain	2
	Severe Pain	3
Crepitus	No Crepitus	0
	Palpable Crepitus	1
	Audible Crepitus	2
Swelling	No Swelling	0
	Mild Swelling	1
	Moderate Swelling	2
	Severe Swelling	3
Range of Movements	Normal 130 degrees	0
	Mild 120-130 degrees	1
	Moderate 60-119 degrees	2
	Severe 0-59 degrees	3
Stiffness	Absence of Stiffness	0
	Mild 30 minutes	1
	Moderate 31-60 minutes	2
	Severe 61 minutes and above	3

Tenderness	No Tenderness	0
	Patient says the joint is tender	1
	Winces with pain	2
	Winces and withdraws the affected part	3
	Does not allow to touch the affected part	4
Visual Analogue Scale (VAS)	No pain	0
	Mild pain	1
	Moderate pain	2
	Severe pain	3
	Extremely severe pain	4
WOMAC index	Daily routines not affected	0
	Mildly affected	1
	Moderately affected	2
	Severely affected	3
	Extremely severely affected	4

Intervention

It is a comparative clinical study of patients with *Janusandhigata Vata*. 40 patients diagnosed as having *Janusandhigata Vata* selected as per inclusion and exclusion criteria irrespective of their gender, caste, religion, education status and socio-economic status were taken for the study.

Group A: The patients of Group A are treated with *Grihadhumadi Churna Upanaha Sweda*.

Group B: The patients of Group B are treated with *Kottamchukkadi Churna Upanaha Sweda*.

Except the medicines, all other procedures in both the groups are same.

Statistical Method

Paired and Unpaired 't' test by using standard statistical software Sigmastat.

Table 2: Treatment chart

SN	Name	Group A	Group B
1.	Upanaha Sweda	Grihadhumadi Upanaha Sweda	Kottamchukkadi Upanaha Sweda
2.	Duration Of Procedure	7 days - 12 hours per day	7 days - 12 hours per day

Table 3: Materials Required

SN	Requirements	Uses
1.	Droni	For sitting comfortably
2.	Round bottom vessels - 2 no.	For the homologous preparation of the medicines
3.	Upanahadravya, Saindhava Lavana, Dhanyamla, Tila Talia	For the procedure of Upanaha Sweda
4.	Cotton Khora Cloth	Measurements of 15cms x 2mts for Bandhana
5.	Eranda Patra	To wrap the warm paste
6.	Gas Stove	For heating the medicines
7.	Spoon	For mixing uniformly
8.	Threads	For tying the Bandage

Treatment procedure

Purvakarma

Preparation of the medicine

- 100 grams of Grihadhumadi Churna used in Group A and 100 grams of Kottamchukkadi churna used in Group B
- 120 ml of Dhanyamla
- 5 grams of Saindhava Lavana

A homologous paste was made by adding all the above ingredients by mixing uniformly and heating in Mandagni.

Preparation of the Patient: Patient is asked into lie down in supine position or sit comfortably by exposing the affected Knee Joint.

Sthanika Abhyanga was done with Tila Talia on the affected part.

Pradhana Karma

Prepared paste was applied uniformly on the affected part in luke warm state. Then wrapped it with Eranda Patra, bandaged it with Cotton Khora Cloth and tied properly with threads.

Paschat Karma

Upanaha has been retained over the affected area for 12 hours duration and after that removed and cleaned off with luke warm water.

RESULTS

Table 4: Effect of treatment in Group A

S N	Characteristics Signs / Symptoms	Group A					
		Mean Score		SD	't' value	'p' value	% of Reli ef
		BT	AT				
1.	Pain at Rest	1.6	0.6	0.5 1	7.76	P=<0. 001	62.50
2.	Swelling	1.3	0	0	12.3	P=<0. 001	100
3.	Stiffness	1.6	0.2 5	0.3 1	13.2	P=<0. 001	84.38
4.	VAS	6.25	1.0 5	0.5	0.11	P=<0. 001	83.20
5.	Tenderness	1.75	0.2	0.5 1	10.1	P=<0. 001	88.57
6.	Crepitus	1.45	0.7	0.5	11	P=<0. 001	51.72
7.	ROM	1.4	0.1 5	0.3 1	10.1	P=0.0 01	89.29
8.	WOMAC Index	2.25	0.7	0.5	16.9	P=<0. 001	68.89

Result of Group A

The Percentage of improvement in Group A on pain at rest is 62.50%, swelling is 100%, stiffness is 84.38%, VAS is 83.20%, tenderness is 88.57%, crepitus is

51.72%, ROM is 89.29% and WOMAC INDEX is 68.89%.

Table 5: Effect of treatment in Group B

S N	Characteristics	Group B					
		Signs / Symptoms		SD	't' value	'p' value	% of Relief
		BT	AT				
1.	Pain at rest	2.1	0.7	0.47	10.28	P=<0.001	66.67
2.	Swelling	1.35	0.05	0	12.34	P=<0.001	96.30
3.	Stiffness	1.6	0.15	0.37	10.72	P=<0.001	90.63
4.	VAS	6.2	1.7	0.44	29.52	P=<0.001	72.58
5.	Tenderness	2	0.8	0.47	12.37	P=<0.001	60.00
6.	Crepitus	1.4	0.6	0.51	11	P=<0.001	57.14
7.	ROM	1.8	0.75	0.41	10.51	P=<0.001	58.33
8.	WOMAC Index	2.3	0.95	0.47	11.96	P=<0.001	58.70

Result of Group B

The Percentage of improvement in Group B on pain at rest is 66.67%, swelling is 96.3%, stiffness is 90.63%, VAS is 72.58%, tenderness is 60%, crepitus is 57.14%, ROM is 58.33% and WOMAC INDEX is 58.7%.

In this study, Group A and Group B has shown highly significant results in swelling and stiffness whereas in crepitus, range of movements (ROM) and WOMAC index, didn't get much significant result. In case of pain at rest, tenderness and visual analogue scale (VAS), this study shown moderately significant results.

Table 6 : Comparative Result of Group A and Group B

S N	Characteristics	Group A			Group B		
		Mean Score		% of Relief	Mean Score		% of Relief
		BT	AT		BT	AT	
1.	Pain at rest	1.6	0.6	62.50	2.1	0.7	66.67
2.	Swelling	1.3	0	100.00	1.35	0.05	96.30
3.	Stiffness	1.6	0.25	84.38	1.6	0.15	90.63
4.	VAS	6.25	1.05	83.20	6.2	1.7	72.58
5.	Tenderness	1.75	0.2	88.57	2	0.8	60.00
6.	Crepitus	1.45	0.7	51.72	1.4	0.6	57.14
7.	ROM	1.4	0.15	89.29	1.8	0.75	58.33
8.	WOMAC Index	2.25	0.7	68.89	2.3	0.95	58.70

DISCUSSION

Janusandhigata Vata can be seen in two conditions such as one in *Vridhastha* and the other due to *Ativyayama*, *Sthoulya* etc. *Vata* and *Asthi* are having *Ashraya-Ashrayi Sambandha* which means *Asthi* is the residing place of *Vata*. Increased *Vata* does *Shoshana* of *Shleshaka Kapha* in *Janu Sandhi* by its *Ruksha Guna*. Due to *Kapha Kshaya*, *Khavaigunya* occurs in *Janu Sandhi* and forms the disease *Janusandhigata Vata*. *Charaka* has mentioned the way to treat *Vatavyadhi* by continuous administration of *Snehana* and *Swedana*. But he wasn't peculiar about the treatment for *Sandhigata Vata*. *Sushruta* has mentioned specific treatment for *Sandhigata Vata* as *Snehana*, *Upanaha*, *Agnikarma*, *Bandhana* and *Unmardana*. So we can adopt the same line of treatment for *Janusandhigata Vata* also.

Administering *Swedana* in the form of *Upanaha* over the affected joint can help to get relief from symptoms of *Sandhigata Vata*. *Swedana* can remove *Stambha*, *Gourava* and *Sheeta* from the body and induce Sweating. *Upanaha* means bandaging. The

treatment procedure in which selected drugs based on *Doshahara* properties applied over the affected body part in the form of a paste, followed by wrapping with any of the *Vatahara* leaves which altogether bandaged by a cloth or leather is called *Upanaha*. It must be kept over there for a period of 12 hours if patient feels comfortable.

In the current study, both *Grihadhumadi Churna Upanaha Sweda* and *Kottamchukkadi Churna Upanaha Sweda* has prepared in *Saagni* method. In both the groups, along with the drugs, to prepare *Upanaha*, we also added *Dhanyamla*, *Tila Taila* and *Saindhava Lavana* as these are also possessing *Vatahara* properties.

Grihadhumadi Upanaha Sweda shows better effect in the symptoms like *Shotha*, *Stabdhatata*, *Prasarakunjanayoh Apravritti* etc. when compared with *Kottamchukkadi Upanaha Sweda* as all the drugs possess the properties of *Swedana*. It acts on *Tvak* which is the *Sthana* of *Vata*, *Bhrajaka Pitta* and *Shleshaka Kapha*. So we can say that *Grihadhumadi Churna Upanahasweda* is very much effective in all the *Tridoshas* and giving the patient much better relief.

CONCLUSION

Janusandhigata Vata being one among the *Vatavyadhis*, *Snehayukta Swedana* can be thought as a more effective treatment. The treatment procedure adopted in the present study is *Upanaha Sweda*, which comes under the above category. Thus in *Upanaha Sweda*, the absorption of drug is more due to the increased bioavailability of the applied area by the action of ingredients in it and can give better result in a short period of time. For knowing better effect of *Grihadhumadi Churna Upanaha Sweda*, lab analysis also can be done with the help of Research and Development Department. The same study can

be carried out in large sample size and in *Sandhigata Vata* of other joints also.

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