A COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFECT OF SAHACHARADI KWATHA AND NAGARADI KWATHA IN THE MANAGEMENT OF JANUSANDHIGATAVATA

Nimesh P K[1], Susheel Shetty[2]

[1]3rd Year PG scholar; [2]Associate Professor;
Department of P.G Studies in Kayachikitsa, Alva's Ayurveda Medical College, Moodbidri, Karnataka, India

Email: drnimeshpknair@gmail.com

ABSTRACT

Knee is the most important weight bearing joint in the body, when it gets affected by Osteoarthritis, it results in marked work disability. There is a steady rise in prevalence from age 30-65 years. Women' were more prone for OA. It is characterized by *Sandhi Shoola, Shotha, Prasarana Aakunchana Pravruttischavedana*, this can be correlated with Osteoarthritis of Knee Joint. Hence an effort is to make to evaluate and compare the effect in the management of *JanuSandhigatavata with Sahacharadi Kwatha* and *Nagaradi Kwatha* which contains the drugs having the properties like *vatahara, Shothahara* and *vedanasthapana*. A randomized comparative clinical study of two groups, consisting of 20 patients in each group were Group A with *Sahachardi kwatha* 50ml and Group B with *Nagardi kwatha* 50ml twice daily for 30 days. The comparative effect of treatments in Group &Group B had shown statistically highly significant difference in the effect on Pain, Range of movements & Tenderness. The percentage of relief for Pain in Group A is 47.36% and in Group B it is 18.5%.In Range of movements the percentage of relief found to be 7.33% in Group A and 2.94% in Group B. Similarly in tenderness the percentage of relief is 50% in Group A and 21.42% in Group B.   There is no effect on swelling, crepitus & WOMAC between the group comparisons. On comparing both groups statistically & clinically Group A had shown better effect.

Keywords: *Janusandhigatavata, Sahachardikwatha, Nagardi Kwatha, Osteoarthritis.*

INTRODUCTION

Knee is the most important weight bearing joint in the body, when it gets affected by Osteoarthritis, it results in marked work disability. It is one such common degenerative disorder characterized by degeneration of joint cartilage and adjacent bone that can cause symptoms like pain, swelling, restricted mobility and stiffness of joint[1].

Osteoarthritis is the leading cause of disability in India affecting over 15 million Indians each year Osteoarthritis[2] is commonly present unilaterally in the knee joint, which the most important weight is

bearing joint in the body. Osteoarthritis of the knee joint is the most common joint disorder seen in elderly people. Due to similarities in signs and symptoms, it can be very much correlated to *Janu sandhigata vata*. In classics *Janusandhigatavata* is characterized by *Sandhi Shoola, Shotha, Prasarana Aakunchana Pravruttischavedana*[3,4]

Osteoarthritis is the most common articular disorder that begins asymptomatically in the 2nd and 3rd decades and is extremely common by age 60. Studies reveal there is a steady rise in prevalence of OA from age 30 such that by 65, 80% of people have radiographic evidence of OA, though only 25-30% is symptomatic[5]. It is a slowly progressing degenerative disorder. Due to the increased prevalence of this disorder it has become a major problem and burden for society, as it indirectly reduces the working potency resulting in dependency. It limits everyday activities such as walking, dressing, bathing etc thus making individual partially or even fully handicapped.

Potent analgesics and anti-inflammatory drugs are available in the market, which run the risk of producing side effects like gastric erosion, hepatic and nephro toxicity, etc. Even surgery has a statistical failure rate of 10% in knee replacements. One of the current limitations of contemporary science is the lack comprehensive and effective management. Research work in Ayurveda has a large scope in this condition.

Charaka was the first person who separately described the disease named *"Sandhigata Anila"*, but he has not included it among the 80 types of *Nanatmaja Vyadhi*[6] *Sushruta* and *Vagbhata* also gave importance to *Sandhivata* and included in the chapter of *Vata Vyadhi*[2, 3]. When *Vata* involves *Janu Sandhi,* it is named *Janu Sandhigatavata*

Sandhigatavata is a *Dhatukshayaja vyadhi* and occurs usually after mid life stage. Here mainly *asthivaha* and *majjavaha srotodusti* was observed *Prakupita vata dosha* creates *Sandhishoola,* while due to *kapha kshaya* particularly decrease of *sleshmaka kapha, Sandhi garshana* takes place and symptoms like *Sandhi shotha, vedana* etc occurs. So considering all the above factors here in *Sandhigatavata*, the drug which have *ushna veerya vedanahara, shothahara, Shoolahara* and *vedanasthapana* properties are useful.

The present study aims to explore the efficacies of *Sahacharadi kwatha*[7] and *nagaradi kwatha* in *janusandhigatavata*. The drugs of both formulations share the common properties of *Vatahara, Ushna veerya, Shothahara* and *vedanasthapana* which must be contributing to the efficacies of the drug. Here an effort has been made to evaluate and compare the efficacy of *Sahachardi kwatha* and *Nagaradi kwatha* in *Janusandhigatavata.*

AIM:

The present work was undertaken to compare the clinical efficacy of *Sahacharadi kwatha* and *Nagaradi kwatha* in the *Janusandhigatavata.*

SOURCE OF DATA:
LITERARY SOURCE

All the classical books like *Brihatrayi's* and *Laghutrayi*'s and modern literature and contemporary text including the website about the disease, drug and procedure is reviewed and documented for the intended study.

SAMPLE SOURCE

Patient suffering from *Janusandhigatavata* were selected from the *Kayachikitsa* OPD and IPD of Alva's Ayurveda Medical College and Hospital, Moodbidri and from other medical camps and referrals.

DRUG SOURCE

The drugs were selected from local areas, markets after proper identification. *Thaila* and *Choornas* were prepared in Alva's Pharmacy, Mijar.

METHOD OF COLLECTION OF DATA:

Study design - Single Blind Randomized Comparative Clinical Study

Sample size- A minimum of 40 patients fulfilling the diagnostic and inclusion criteria of Janusandhigatavata of either sex are selected for the study and randomly assigned into 2 equal groups.

Group A – *Sahacharadi Kwatha*

Group B – *Nagaradi Kwatha.*

Sampling method - Simple Random Sampling Method.

Diagnostic criteria:

The patient is diagnosed based on the following clinical features.

- *Sandhi Shoola*-Pain in Knee joints
- *Sandhi Shotha*- Knee Joints swelling
- *Sandhi Atopa*- Crepitation
- *Prasaarana and Aakunchana Apravrutti* - Limited range of movement

Inclusion Criteria:

- Patients fulfilling the Diagnostic criteria of *Janusandhigatavata.*
- Patient's age group between 30 to 70 years of either sex.
- Patients without any anatomical deformity.

Exclusion Criteria:

- Patients suffering from disease like D.M, Carcinoma, Psoriatic Arthritis, Gout Arthritis, Syphillis, S.L.E, Polymyalagia and Tuberculosis and other similar systemic diseases are excluded.
- Acute injuries will be excluded.

MATERIALS

For the present study, *Sahacharadi Kwatha* and *Nagardi kwatha* were chosen as the formulations for *janusandhigatavata* on the basis of textual reference available in *Sahasrayogam Parishita Prakarana, Sharangadhara and Yoga Ratnakara.*

Ingredients of the both formulations

Sahachardi kwatha: *Sahachara, Suradaru, Kulatta, Haridra, Daruharidra, Puskara mula, Amlavetasa.*

Nagardi kwatha: *Nagara, Eranda, Hingu, Indrayava, Saindhava Lavana*.

Method of Medicine preparation

SAHACHARADI KWATHA

The *kashaya* was made in a single batch. All the drugs were taken in equal quantity i.e. 1.3 kg each drug so in total 9kgs was taken, made in to coarse powder, 144 liters of water was added &heated on *Mandagni.* It was subjected to *Mandagni* until it was reduced to 1/4th. The *kashaya* thus obtained was filtered through a cloth and was collected in a clean sterile container. After cooling, it was preserved by adding Sodium Benzoate powder. The *kashaya* was filled in bottles and sealed.

NAGARADI KWATHA

The *kashaya* was made in a single batch. *Nagara, Eranda* & *indrayava* were taken 2.8kg each, and *Prakshepaka dravyas* such as *hingu* and *saindhava lavana* were added in the quantity 300 gm each so in total 9kg was taken, made in to coarse powder, 144 liters of water was added& heated in *Mandagni.* It was subjected to *Mandagni* until it was reduced to 1/4th. The *kashaya* thus obtained was filtered through a cloth and was collected in a clean sterile container. After cooling it was preserved by adding sodium benzoate powder. The *kashaya* was filled in bottles and sealed.

Intervention

The interventions of clinical study were carried according to the individual groups mentioned below. These groups assigned as A and B was treated with *Sahacharadi kwatha* and *Nagaradi kwatha* respectively.

Treatment Chart

The patients fulfilling the criteria for inclusion are randomly assigned into 2 groups, each comprising of 20 patients

GROUPS	Dosage	Time of Administration	Duration of Treatment	Anupana
GROUP A (Trial drug 1) *Sahacharadi Kwatha*	50ml	Twice daily before food.	30 days	*Ushnodaka* (warm water)
GROUP B (Trial drug 2) *Nagaradi kwatha*	50ml	Twice daily before food.	30 days	*Ushnodaka* (warm water)

Treatment period

Patients were assessed clinically on day 0 (BT), 31st and 46th day (After 15 days of follow up)

Investigation

Routine blood investigations along with x-ray of the affected knee joint AP and lateral views were carried out before the clinical study to confirm diagnosis.

Assessment of variables:-

Clinical assessment is made for severity of disease and for the clinical improvement. Grading for the severity of individual symptoms was framed for point scale. The grading of variables was given along with clinical prforma especially formatted for the study on *Janusandhigatavata.*

DISCUSSION

Discussion on effect of treatment on signs and symptoms

Pain:

According to statistical analysis Group A had shown highly significant effect $p<0.001$ whereas group B had shown only significant effect on pain $p<0.05$. On comparison between group there is highly significant effect ($p<0.001$) was found. It means Group A had shown better effect than Group B. It might be because of the better *shoolahara property* of *Sahachardi kwatha.*

Swelling

According to statistical analysis both the treatment have response on the parameter swelling and both groups are highly significant ($p<0.001$). On compare

ison between groups it showed insignificant effect ($p>0.05$). It means both the groups had equal effect. It might be because of the *ushna veerya, shothahara,*

vedanasthapana property present in *Sahacharadi kwatha* and *Nagaradi kwatha.*

Range of movements

According to statistical analysis Group A had shown highly significant effect ($p<0.001$) whereas group B had shown only significant effect on Range of movements ($p<0.05$). On comparison between group there is highly significant effect ($p<0.001$) was found. It means Group A had shown better effect than Group B in the criteria of range of movements. It might be because of *vedanahara, vatakaphahara* property of *Sahacharadi kwatha.*

Tenderness

According to statistical analysis Group A had shown highly significant effect ($p<0.001$) whereas group B had shown only significant effect on Tenderness ($p<0.05$). On comparison between group there is highly significant effect ($p<0.001$) was found. It means Group A had shown better effect than Group B in the criteria of Tenderness. It might be because of *Ushnaveerya & better vedanahara, vatakaphahara* property of *Sahacharadi kwatha.*

Crepitus

According to statistical analysis Group A &Group B had shown significant effect on crepitus ($p<0.05$). On comparison between the group it had shown insignificant effect ($p>0.05$). It means both the Group had shown equal effect on the parameter crepitus.

It might be because of *shoolahara* and *vedanahara property of both the kashayas.*

WOMAC

According to statistical analysis both the treatment have response on the parameter WOMAC and both

groups were highly significant ($p<0.001$).On comparison between groups it showed insignificant effect ($p>0.05$). It means both the groups had equal effect. It might be because of the *ushna veerya, shothahara, vedanasthapana property* present in *sahacharadi kwatha* and *Nagaradi kwatha*

Discussion on Probable mode of action of both *Kwathas*

Probable mode of action of *Sahacharadi Kwatha*

- It contains *Sahachara, Suradaru, Kulatta, Haridra, Daruharidra, Puskara mula, Amlavetasa..*,
- This *kashaya* is *vatahara* having specificity in *vatavyadhis* pertaining to lower extremities.
- *Sahachara* possesses *tikta* and *madhura* rasa *devadaru* has *tikta rasa* and *nagara* has *katu rasa* contributing to *kapha vatahara* property of the formulation
- By the virtue of *Ushna veerya* it act as *vatakaphahara,vedanashamaka* and *avaranahara*

- Due to *katu vipaka* the formulation is *kaphahara*
- The GC MS analysis of *sahacharadi kashayam* revealed the possible presence of some molecules like eugenol, abietic acid, sesquiterpenes, n-hexadecanoic acid having antioxidant properties.
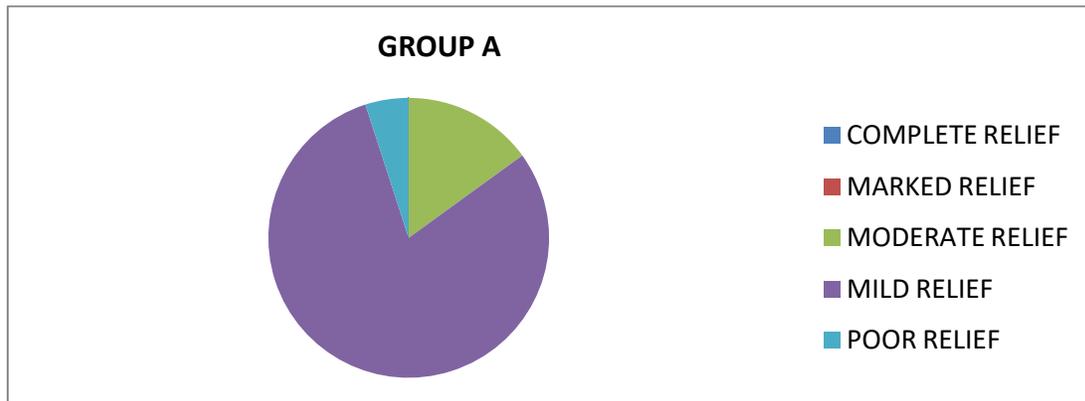
Probable mode of action of Nagaradi Kwatha

- Drugs in this formulation include *nagara, eranda, hingu indrayava, saindhava lavana*
- The *phalashruti* of this formulation specifies that it is indicated in *vatavyadhis* like *sandhipeeda, sarvangapeeda* etc.
- Most of the drugs having *tikta katu* rasa contributing to *kapha vatahara* property of the formulation.
- Most of the drugs having *ushna veerya* it act as *Shothahara, vedanasthapana, Shoola prashamana*
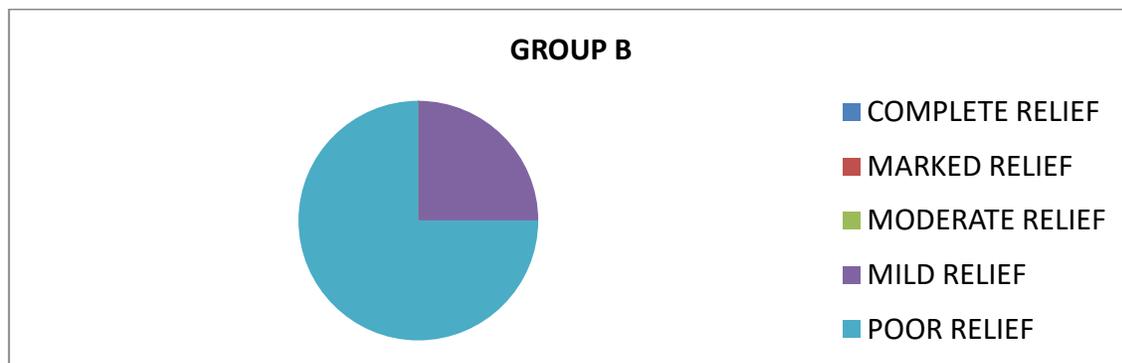- As it contains *hingu & saindhava lavana* which acts as *Deepana Pachana*.

OVERALL EFFECT OF THE TREATMENT SHOWNG OVERALL EFFECT OF TREATMENT

Effect of therapy	GROUP A No of pts	%	GROUP B No of pts	%	TOTAL No of pts	%
COMPLETE RELIEF (100%)	0	0	0	0	0	0
MARKED RELIEF (76 - 99%)	0	0	0	0	0	0
MODERATE RELIEF (51 - 75%)	3	15%	0	0	3	7.5%
MILD RELIEF (26 - 50%)	16	80%	5	25%	21	52.5%
POOR RELIEF (0 – 25%)	1	5%	15	75%	16	40%

SHOWNG OVERALL EFFECT OF GROUP A

GROUP A

- COMPLETE RELIEF
- MARKED RELIEF
- MODERATE RELIEF
- MILD RELIEF
- POOR RELIEF

SHOWNG OVERALL EFFECT OF GROUP B

GROUP B

- COMPLETE RELIEF
- MARKED RELIEF
- MODERATE RELIEF
- MILD RELIEF
- POOR RELIEF

CONCLUSION

Majority of the drugs in *Sahacharadi kwatha* and *Nagaradi kwatha* have *ushna veerya, Vatahara, Shoolahara*. So by their virtue, they help in breaking the *samprapti* of *Janusandhigatavata*. There for helps in relieving the pain and inflammation of joints. Treatment response to the parameters such as Pain, Tenderness, & Range of movements there is statistically highly significant difference between the two groups. In this it is found that Group A had shown better effect than Group B. The other parameters such as swelling, crepitus and WOMAC both group had shown statistically insignificant effect difference between the two groups. It means both group are having equal effect. There is 15% Moderate relief in Group A and 7.5% Group B. There is

80% Mild relief in Group A and 52.5% in Group B. Similarly there are 5% POOR RELIEF in Group A and 40% in Group B. So it has concluded that after treatment, *SahacharadiKwatha* is more effective than NagaradiKwatha in the management of *JanuSandhigatavata*. So the Hypothesis H1 accepted

REFERENCES

1. Davidson's Principle and Practise of Medicine, edited by Nicholas A. Boon, Nicki R. Colledge,Churchill Livingstone Elsevier, 20th edition 2007, Page. No 1096.
2. www.blog.digitexmedical.com
3. Acharya Agnivesha, Charaka Samhita with 'Ayurveda Deepika' Commentary of Chakrapanidatta, edited by Vaidya Y T Acharya, Chaukhambha Orientation, Va-

ranasi, Reprint 2006, Uttar Pradesh, Chikistasthana 28/37 Page. No 618.

4. Acharya Sushruta, Sushruta Samhita, with Nibandhasangraha commentary of Dalhanacharya and Nyayachandrika Panjika of Gayadasa Acharya on Nidhanasthana edited-Vaidya Yadawji Trikamji Acharya, Chaukhambha Orientalia, Varanasi, Reprint 2004, Uttar Pradesh, Nidhana Sthana 1/28 Page. No. 261.

5. Davidson's Principle and Practise of Medicine, edited by Nicholas A. Boon, Nicki R. Colledge,Churchill Livingstone Elsevier, 20th edition 2007, Page. No 1096.

6. Agnivesa; Charaka Samhita; redacted by Caraka and Drdhabala with Ayurveda Dipika commentary by Cakrapanidatta; edited by Vaidya Yadavji Trikamji Acharya, 6th edition, 2008; Published by Caukhambha Surabharati Prakasana, Varanasi, Uttar Pradesh.

7. Ram Nivas sharma and Surendra sharma, Sahasrayogam, edition 2007, Chaukamba Sanskrit pratisthan, Kashaya prakaraanam, Vatahara kasha, Page no.32

Source of Support: Nil
Conflict Of Interest: None Declared