

A COMPARATIVE CLINICAL STUDY ON THE THERAPEUTIC EFFECT OF DASHANGA GUGGLU AND SHOTHAGHNA LEPA IN JANUSANDHIGATA VATA W.S.R. OSTEOARTHRITIS

Dr. Ramesh Prasad Gupta^{1*}, Dr. Manish Kumar Patel² and Dr. Archana³

¹Ph.D. Scholar, Dept. of Kayachikitsa, Gopabandhu Ayurveda Mahavidyala, Puri, Odisha.

²Ph.D. Scholar, Dept. of Rasashastra & Bhaishajya Kalpana, Gopabandhu Ayurveda Mahavidyala, Puri, Odisha.

³P.G. Scholar, Dept. of Rasashastra & Bhaishajya Kalpana, Govt. Ayurved College, Raipur, Chhattisgarh.

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***Corresponding Author**

Dr. Ramesh Prasad Gupta

Ph.D. Scholar, Dept. of
Kayachikitsa, Gopabandhu
Ayurveda Mahavidyala,
Puri, Odisha.

ABSTRACT

Sandhi Gata Vata (SGV) is explained in Ayurveda under *vatavyadhi*, the concept of *Gata vata* is explained among *Tridosha*, *Vata* is responsible for all *Cheshta* and all diseases. In old age, all *Dhatu* beings undergo *Kshaya*, which leads to *Vata Prakopa* and makes the individual prone to many diseases. Aging and Obesity are the major factors for increased occurrence of osteoarthritis. The *Shamana* procedures like *Snehana*, *Swedana*, *Lepa*, *Bandhana*, *Agni Karma* and *Raktamokshana* are emphasized in *Ayurveda* to provide relief from pain & swelling and restore mobility. Bhavamishra explained *Dashanga Guggulu*^[1] which has *Amapachaka*, *Medohara* and

Vatanulomaka action. *Shothagna Lepa*^[2] is explained by Sharangadhara as *Shamana* therapy to relieve *shotha* and *shoola*. Hence it is planned to evaluate and to compare the efficacy of *Shothagna Lepa* and *Dashanga Guggulu* in *Janu Sandhigata Vata*.

KEYWORDS: Janu Sandhigata Vata, Osteoarthritis, Dashanga Guggulu, Shothaghna Lepa.

INTRODUCTION

Sandhigata Vata^[3] or Osteo-arthritis is a type of *Vatavyadhi* which mainly occurs in *Vriddhavastha* due to *Dhatukshaya* and is the commonest form of articular disorder. It limits everyday activities such as walking, dressing, bathing etc. thus making patient disabled/handicapped. *Vatavyadhi*, affecting *Marmasthisandhi*^[4] and its occurrence in old age

makes it *Kastasadhya* for the patient. Till date no medicine is available which prevents or reverses or blocks the growth of this disease.

The etiology of pain is multi-factorial, including inflammatory and non-inflammatory causes. The disease is managed by NSAIDs, analgesic drugs, physiotherapy and corticosteroids etc. Above drugs are very costly and have unwarranted side-effects. Even the surgical treatment does not provide complete relief.^[5]

Treatment modalities in contemporary science are pharmaco-therapies with Non-Steroidal Anti Inflammatory Drugs, Intra articular injections and Surgery. There has been little response to the therapy with increased side effects.

Here, an effort has been made in search of its treatment. According to *Ayurveda*, the treatment is "*Samprapti Vighatana*". So in case of *Sandhigata Vata*, treatment should be such that it makes *Agni Shamana*, *Vata Shamana*, *Kapha Vriddhi* (increase *Snigdha*guna) and correct *Khavaigunya*. Here *Dashanga Guggulu* and *Shothagna Lepa* are selected for the present study which can serve above needs to treat the disease *Janu Sandhigata Vata* (Osteoarthritis).

Aims and Objectives

1. To evaluate the efficacy of *Dashanga Guggulu* in *Janu Sandhigata*vata.
2. To evaluate the efficacy of *Shothagna Lepa* in *Janu Sandhigata*vata.
3. To evaluate the synergetic effect of *Dashanga Guggulu* and *Shothagna Lepa* in *Janu Sandhigata Vata*.
4. To compare the individual and synergistic effect of *Dashanga Guggulu* and *Shothagna Lepa* in *Janu Sandhigata Vata*.

MATERIAL AND METHODS

Source of data: 30 patients, irrespective of gender, caste and social status will be selected for the study from IPD & OPD of SDM *Ayurveda* Hospital, Udupi. These patients will be divided in 3 groups equally. One group will be administered *Dashanga Guggulu*, the second *Shothagna Lepa*, and the third both.

Drugs: *Dashanga Guggulu* and *Shothagna Lepa* preparation is done from SDM pharmacy, Udupi.

Method of Data Collection: A special proforma will be prepared for recording the historical details, physical signs and symptoms of the patients. Lab investigations will be carried out as mentioned in allied sciences.

Study design: It will be a single blind comparative clinical study with pre and post- test design wherein a minimum 30 patients suffering from *Janu Sandhi Gata Vata* will be selected irrespective of their gender, caste and social status. Investigations and the parameters of signs and symptoms will be scored on the basis of standard method and will be analyzed statistically.

Intervention: Thirty patients are divided into three groups of 10 each- **Group I: *Dashanga Guggulu* - 2 tablets of 500 mg** will be administered **thrice a day for 14 days**. **Group II: *Shothagna Lepa*** of sufficient quantity will be applied externally **once a day for 14 days**. **Group III: *Dashanga Guggulu*– 2 tablets of 500 mg** will be administered **thrice a day** along with ***Shothagna Lepa*** of sufficient quantity applied externally **once a day for 14 days**.

Follow Up: All the patients will be followed for 14 days after treatment with weekly interval.

Inclusion criteria

- Patients with *prathyatmalakshana* of *Janu Sandhigata Vata*,
- Patient with signs & symptoms of Osteoarthritis,
- Patients ageing 30 years to 70 years.

Exclusion criteria

- Patients below 30 years and above 70 years,
- Patient with Tuberculosis, Rheumatoid Arthritis, Systemic Lupus Erythematosus, Psoriatic Arthritis, Gouty Arthritis.

Assessment criteria-Signs and symptoms of *Janu Sandhigata Vata*, Osteoarthritis are evaluated.

- Pain-Visual Analogue Scale (VAS)
- Morning Stiffness of knee joint.
- Swelling-girth of joint is measured with tape.
- Tenderness asses by severity grade.
- Movement of joints-measurement is done with Goniometer.

- WOMCA- Index for Osteoarthritis.
- Functional ability: -
 1. Walking - time required to cover 30 metres in seconds.
 2. 10 sit -ups time required in minutes.
 3. 10 steps climb time required in seconds.

Investigations

❖ *Haematological investigations*

- Haemoglobin %, Total leucocytes count, Differential count.
- Erythrocyte Sedimentation Rate, Random blood sugar.

❖ *Urological investigations*

- Sugar, Albumin & Microscopic.

❖ *Radiological investigations*

- X-ray: AP & Lateral view of knee.

OBSERVATIONS

It was observed that age, gender, habits/ addictions, *prakruti*, occupation and nature of work have certain degree of correlation with this disease. However, religion, level of education, marital status, socio- economic status, and diet could not be found to have a correlation with this disease.

Effect of treatment: The assessment of results was made by adopting the standard methods of scoring questionnaires and the signs and symptoms of *Janusandhigatavata*. It included the assessment of pain, swelling, tenderness and functional disability.

RESULTS

The results of each parameter, in each of the group in the study are analyzed statistically with the paired T test and ANOVA test. The details are as follows:

1. PAIN-Table No: 1. Comparison of Pain inpatients of A, B & C Groups.

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	38.02	8.578	2.713	0.2058	0.815
Group B	40.62	8.916	2.834		
Group C	40.00	10.70	3.385		

2. Morning Stiffness -Table No: 1.Comparison of Morning Stiffness in patient A, B & C Groups.

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	0.800	0.349	0.110	0.3706	0.6938
Group B	0.750	0.424	0.134		
Group C	0.650	0.411	0.130		

3. Swelling-Girth of Knee Joint -Table No: 1. Comparison of Swelling-girth of knee joint in patient A, B & C Groups.

Groups	Difference in mean	Standard Deviation	Standard error of means	One way ANOVA test	
				F	P
Group A	38.95	5.011	1.585	2.046	0.1489
Group B	37.07	2.258	0.714		
Group C	35.92	1.997	0.631		

4. Tenderness- Table No: 1. Comparison of Tenderness in patient A, B & C Groups.

Groups	Difference in mean	Standard Deviation	Standard error of means	One way ANOVA test	
				F	P
Group A	0.350	0.411	0.130	1.035	0.3688
Group B	0.750	0.754	0.238		
Group C	0.500	0.666	0.210		

5. Movement of Knee Joints-Table No: 1. Comparison of Movement of knee joints in patient A, B & C Groups.

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	127.5	9.860	3.118	0.9343	0.4052
Group B	124.5	8.724	2.759		
Group C	119.5	18.73	5.925		

6. WOMAC- Index -Table No: 1. Comparison of WOMAC- Index in patient A, B & C Groups.

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	58.20	13.30	4.208	0.7211	0.4953
Group B	53.80	17.09	5.405		
Group C	61.20	10.34	3.272		

7. Functional ability

- **Walking - Time required to cover 30 meters in seconds-Table No: 1. Comparison of walking time in patients of A, B & C Groups.**

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	1.500	0.527	0.166	0.000	>0.0999

Group B	1.500	0.527	0.166		
Group C	1.500	0.527	0.166		

- **10 Sit -ups time required in minutes-Table No: 1. Comparison of 10 sit -ups time in patient A, B & C Groups.**

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	1.300	0.674	0.213	0.05056	0.9508
Group B	1.200	0.788	0.249		
Group C	1.300	0.948	0.300		

- **10 Steps climb time required in seconds-Table No: 1. Comparison of 10 steps climb time in patient A, B & C Groups.**

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	1.600	0.516	0.163	0.9101	0.4145
Group B	1.600	0.516	0.163		
Group C	1.300	0.674	0.213		

8. Kellgren– Lawrence Radiographic Grading Scale of Osteoarthritis

Table No: 1. Comparison of Kellgren– Lawrence Radiographic Scale in patients of A, B & C Groups.

Groups	Difference in Mean	Standard Deviation	Standard Error of Means	One way ANOVA test	
				F	P
Group A	2.000	0.942	0.298	0.4345	0.6520
Group B	1.900	0.567	0.179		
Group C	2.200	0.632	0.200		

DISCUSSION

Selectivity and affinity are the principle parameters which characterize the interaction between drug and receptor. *Samprapti Vighatana* is said to be the treatment for *Janu Sandhi Gata Vata*. Therefore, the drug is supposed to dismantle the *Samprapti Ghatakas* of the disease and establish a relationship between the same and penta fold principles of *Rasa*, *Guna*, *Virya*, *Vipaka* and *Prabhava* of the drug.

Dashanga Guggulu: In Group A, *Dashanga Guggulu* was selected in form of oral administration. It is *Tridoshanashaka*, *Shulahara*, *Vedana Sthapana*, *Shothahara*, *Deepana*, *Pachana* and *Rasayana*. It is anti-inflammatory and analgesic too.^[6]

Shothagna Lepa: In Group B, *Shothagna Lepa* was selected as a form of external application in *Janu Sandhi Gata Vata*. *Bahirparimarganachikitsa* plays a vital role amongst the disorders pertaining to *madhyamarogamarga* such as *Janu Sandhi Gata Vata*.^[7]

Shothagna Lepa applied in the form of *pradeha* in *Janu Sandhi Gata Vata* has got the properties to the *Ushna Veerya* and *Vatakaphahara*, which are resulting in *Shoolaghna*, *Shothaghna* and *Stambhahara* actions in this disease.^[8]

CONCLUSION

THE TOTAL EFFECT OF THE THERAPY

- Maximum Improvement : 60%
- Moderate Improvement : 20%
- Mild Improvement : 20%
- No Improvement : 0%

Comparison of the results of all the 3 groups showed that *Dashanga Guggulu* in (Group A) and *Shothagna Lepa* in (Group B) and both *Dashanga Guggulu* and *Shothagna Lepa* in (Group C) are given but over all *Dashanga Guggulu* in (Group A) as a *shaman* therapy has greater effect in improving the signs and symptoms of *Janu Sandhigataavata* than *Shothagna Lepa* alone or *Dashanga Guggulu* and *Shothagna Lepa* both.

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