



Research Article

A COMPARATIVE CLINICAL STUDY ON *RASNA GUGGULU* AND *PANCHATIKTHA GHRITA GUGGULU* IN THE MANAGEMENT OF *JANUSANDHIGATA VATA* VIS-A-VIS TO OSTEOARTHRITIS OF KNEE

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KEYWORDS: *Janu sandhigata vata*, Osteoarthritis of knee, *Rasnadi guggulu*, *Panchatikta Ghritaguggulu*.

ABSTRACT

Janu sandhigata vata can be defined as a joint disease with symptoms of *Shoola*, which aggravates by movement, *Shotha* with complete restricted movements at later stages. *Vata* particularly *Vyanavayu* has a close relationship with the movement of *Sandhi*, so its aggravating factors can produce *Sandhigata vata*.

Osteoarthritis is the most common type of arthritis, especially among older people; it is a joint disease that mostly affects the cartilage. Cartilage is a slippery tissue that covers the end of bones in a joint. Healthy cartilage allows the bone to glide over one another. In osteoarthritis the surface layer of cartilage break down under and wears away. This allows bones under the cartilage rub together, causing pain, swelling and loss of motion of the joint. Over the time the joint may lose its normal shape. It is a degenerative wear-and-tear type of arthritis that occurs most often in people of 50 years of age and older, but may occur in younger people too. This study was intended to find out the efficacy of *Rasnadi Guggulu* and *Panchatikta Ghrita Guggulu* in the management of *Janusandhigata Vata*. Screening of the patient suffering from *Janusandhigata Vata* was done at arthritis camp. And finally patients who fulfilled all necessary criteria gave written consent for the clinical trial, were enrolled for the trial as volunteers.

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INTRODUCTION

Being an eternal science, Ayurveda is the science of life, deals with physical, psychological as well as spiritual well being of an individual. It covers all the spheres of human life. All human beings wish to lead a healthy life in their healthy and active body.

There are several such disorders which curtail one from leading a happy, healthy and active life. Osteoarthritis is one such disorder. It is one of the most common disorder which may begin asymptotically even in the 2nd and 3rd decades of life.

Almost all persons by age 40 have some bodily transformation in weight bearing joints.^[1] The proposed study focuses on the management *Sandhigata Vata* the major weight bearing joint of human body. The health care sector has much importance in our life because everyone knows that

Good Health is a basic prerequisite to acquire materialistic, social and spiritual upliftment of individual. With diseased body one can't work. Advancement of busy, professional and social life, improper sitting posture in offices, continuous work in one position and overexertion is increasing day by day. In present day situation *Dinacharya*, *Rutucharya* are quite contradictory to that of explained in classics with more and more use of vehicles. The causative factors may vary depending on the different entities but actually, *Tridoshas* (*Vata*, *Pitta*, *Kapha*) are the intrinsic causative factors, which are vitiated due to extrinsic factors and their balance is disturbed. Ayurveda prescribes various therapeutic measures either in the form of purifactory (*Samshodhana*) or pacifactory (*Samshamana*) for the alleviation of the disease of both mind and physique. This study is an attempt to

help the patient suffering from *Sandhigatavata* through the administration of *Rasnadi Guggulu* and *Panchatikta Ghrita Guggulu*.

Aims and Objectives

1. To study the effect of *Rasnadi Guggulu* in the management of *Janusandhighata Vata*.
2. To study the effect of *Panchatikta Ghrita Guggulu* of in the management of *Janusandhighata Vata*.
3. To compare the efficacy of *Rasnadi Guggulu* and *Panchatikta Ghrita Guggulu* in *Janusandhighata Vata*.

MATERIALS AND METHODS

Methods of Collection of Data

1. Patients are randomly selected from OPD and IPD of Ashwini Ayurvedic Medical Hospital, Tumkur.
2. Medical camps in and around Tumkur. A special case proforma was prepared with all the points of history taking, physical Signs and symptoms as per Ayurveda. Lab Investigations carried out as mentioned.

Study Design

40 patients diagnosed as *Sandhighatavata* were randomly divided into 2 groups i.e. Group A and Group B comprising of 20 patients each.

Diagnostic Criteria

Patients with symptoms like *Vedana Shopha, Vatapurna Drutisparsha*^[2]

Patients with pain in knee joints

Crepitus

Restricted movements of joints.^[3]

Inclusion Criteria

1. Patients with the clinical features of *Janusandhighatavata* w.r.s. to Osteoarthritis of knee.
2. Patients with age group of 40-70 year old of either gender.
3. Patients with abnormal radiological findings of OA in knee joint.
4. Patients without any previous anatomical deformity.

Exclusion Criteria

1. Patients with trauma, Osteoporosis, repetitive injuries of knee joint
2. Patients having history of malignant hypertension, uncontrolled DM type I & II Tuberculosis, Renal disease, Liver disorders and other systemic disorders
3. Pregnant and lactating women.

Assessment Criteria

Patients were assessed with subjective and objective parameters before and after the treatment. Results are analyzed using suitable statistical methods.

Subjective Parameters

- Pain – VAS scores
No pain (0-4mm)
Mild pain (5-44mm)
Moderate pain (45-74mm)
Severe pain (75-100mm)^[4]
- Stiffness

Objective Parameters

- Swelling^[5]
Grade 1: The pressure applied by the doctor leaves an indentation of 0-2mm that rebounds immediately.
Grade 2: The pressure leaves an indentation of 3-4mm that rebounds in fewer than 15 seconds.
Grade 3: The pressure leaves an indentation of 5-6 mm that takes up to 30 seconds to rebound.
Grade 4: The pressure leaves an indentation of 8mm or deeper. It takes more than 20 seconds to rebound.
- Tenderness^[6]
Grade 1/4 tenderness- tenderness with no physical response
Grade 2/4 tenderness- tenderness with grimace, wince and/or flinch
Grade ¾ tenderness- tenderness with withdrawal
Grade 4/4 non-noxious- stimuli results in patient withdrawal or patient refusal to be palpated due to pain.
- Crepitus^[7]
Grade 1: Palpable crepitus through 1/3 range of motion
Grade 2: Palpable crepitus trough 1/3 to 2/3 range of motion
Grade 3: Palpable crepitus through greater than 2/3 of the range of motion
Grade 4: Audible crepitus

Selection of drug

In this study *Panchatikta Ghrita Guggulu* mentioned in *Bhaishajyaratnavali* and *Rasnadi Guggulu* mentioned in *Yoga Ratnakara* are selected. The benefits of trial drug has selected on following background.

Panchatikta Ghrita Guggulu^[8]

It pacifies Vata present in Asthi, Sandhi, Majja.

Indicated in Kushta, Nadivruna, Bhagandara, Gandamala.

Helps in Gulma, Arsha, Prameha, Rajayakshma, Shwasakasa etc.

Rasnadi Guggulu^[9]

It has Amapachaka property, Agnideepaka.

Indicated in Shotha, Sandhishula.

Has anti-spasmodic activity.

Intervention

For the maximum effect of trial drug on the patients having Janusandhigata Vata are given with Panchatikta Ghrita Guggulu and Rasnadi Guggulu 500mg 2 tablet thrice a day before food for group A and group B respectively. The duration of treatment is 30 days.

OBSERVATION

The Nidana and Lakshana explained in Sandhigata vata are almost similar to that of osteoarthritis of knee.

Assessment of Total Effect of Therapy

Symptoms like Sandhi Shotha, Stabdhata, Sandhi Sputana, Prasarana and Akunchanavedana which were present in most of the patients.

In this study most of the patients were females and that too homemakers. Even in modern science of medicine mentions the prevalence of osteoarthritis is more in females than in males.

Old age, female, hereditary, obesity and repeated trauma related with occupation are the main risk factors for osteoarthritis knee joint.

Statistical Analysis

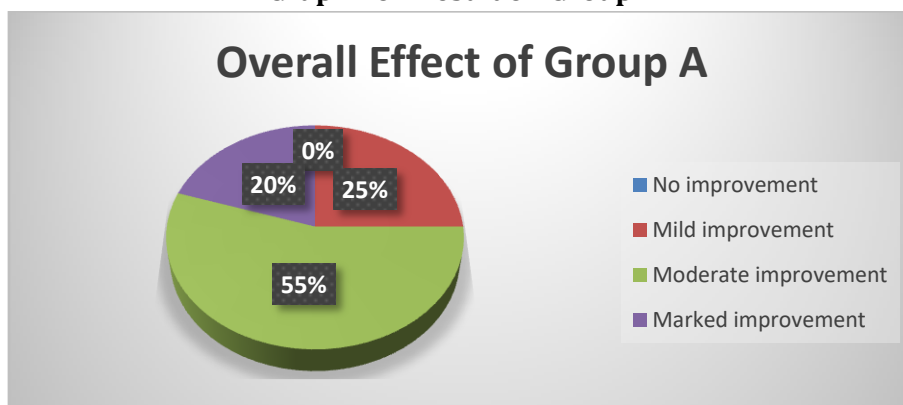
Statistical results of Rasnadi Guggulu in Group A and Group B patients in Panchatikta Ghrita Guggulu before and after treatment is given below.

Total 40 patients were registered in this study. Out of that all, 40 patients were studied in this project. 20 patients were in group A while 20 were in B group. Each patient was observed thoroughly and noted neatly. The observations are recorded and necessary charts and graphs were made.

Table 1: Result on group A

Effect of Treatment in Group - A		
Class	Grading	No of patients
0-25%	No improvement	0
26-50 %	Mild improvement	5
51 - 75%	Moderate improvement	11
76 - 100 %	Marked improvement	4

Graph no1 Result on Group A



Assessment of Total Effect of Therapy

Table 2: Overall effect of Group B

Effect of Treatment in Group - B		
Class	Grading	No of patients
0-25%	No improvement	0
26-50 %	Mild improvement	6
51 - 75%	Moderate improvement	11
76 - 100 %	Marked improvement	3

Graph 3: Result on Group B

Group A	Group B	Mean Difference	SE (±)	WSRT- Z Value	P value
66.37	64.66	1.71	7.22	0.29	>0.05

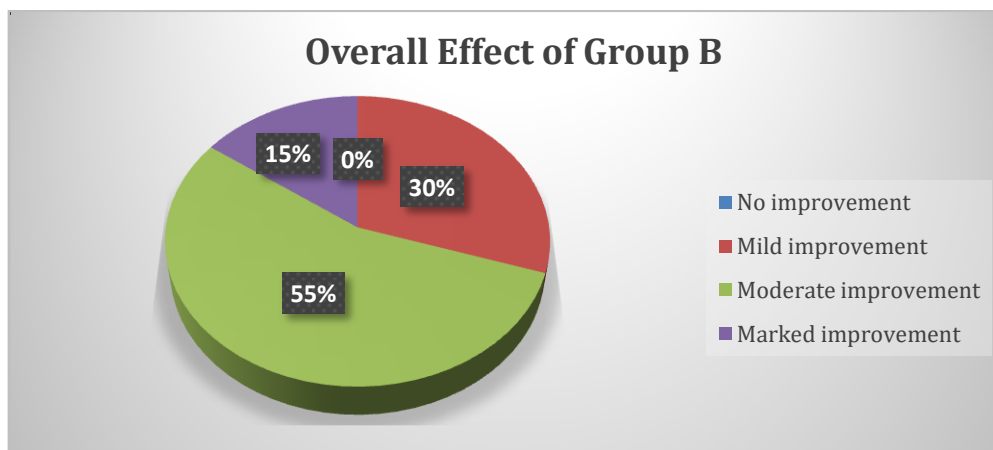
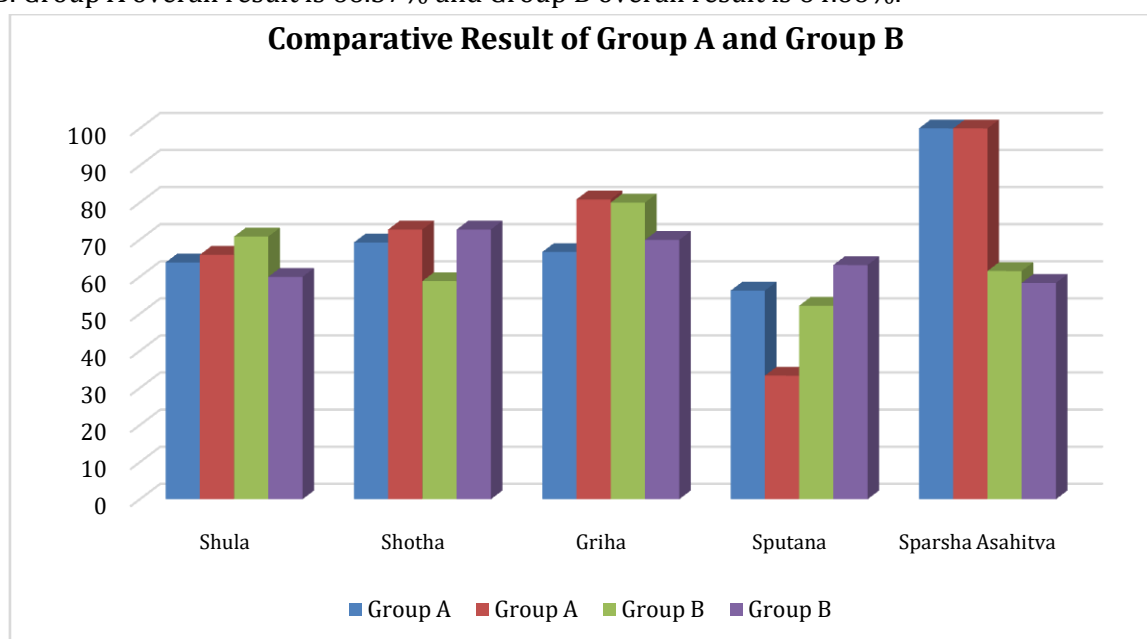


Table 4: Comparative results of Group-A and Group-B

Characteristics	Group-A						Group-B					
	Right Leg		% of relief	Left Leg		% of relief	Right Leg		% of relief	Left Leg		% of relief
	BT	AT		BT	AT		BT	AT		BT	AT	
<i>Shula</i>	2.35	0.85	63.83	2.2	0.75	65.91	2.40	0.70	70.83	2.35	0.95	59.97
<i>Shotha</i>	0.65	0.20	69.23	0.55	0.15	72.73	0.85	0.35	58.82	0.55	0.15	72.73
<i>Griha</i>	0.75	0.25	66.67	0.55	0.11	80.86	0.75	0.15	80.00	0.70	0.21	69.92
<i>Sputana</i>	0.80	0.35	56.25	0.60	0.40	33.33	1.15	0.55	52.17	0.95	0.35	63.16
<i>Sparsha Asahitva</i>	0.35	0.00	100	0.35	0.00	100	0.65	0.25	61.54	0.60	0.25	58.33

Comparative analysis of the overall effect of the treatments in both the groups was done by statistically with unpaired t test. The test shows that the treatment is statistically not significant in Group A when compare to Group B. Group A overall result is 66.37% and Group B overall result is 64.66%.



DISCUSSION**Probable mode of action of Rasnadi Guggulu**

Shuddha Guggulu- anti-inflammatory, anti-arthritic^[10]

Guduchi- anti-pyretic, diuretic^[11]

Rasna-analgesic, anti-inflammatory^[12]

Devadaru- astringent, carminative^[13]

Shunti- carminative, digestive^[14]

Rasnadi Guggulu when used in acute and without any systemic diseases of *Janusandhigata vata* produced significant clinical improvement but in chronic cases it has very limited role to play. Because of the cartilage cushion, crystal deposition, takes place in chronic cases of *Janusandhigata Vata* in the structures of the joints which are irreversible.

Most of the drugs contained in *Rasnadi Guggulu* have properties like *Vata*, *Kaphanashaka*, *Deepana*, *Balya*, *Rasayana*, *Tridoshanashaka*, *Pachana*, *Shothagna*, *Vedanastapana*, *Rechana* and *Shoolaprashamaka*. *Rasnadi Guggulu* has anti-spasmodic action; these are likely to cure muscle stiffness of joint and helps in easy movement of joint. Thus may reduce the progress of *Janusandhigata Vata*.^[15]

Rasna is an anti-inflammatory and pain relieving herb. *Shunti*, *Devadaru*, *Eranda* are *Vatahara* herbs. They also possess anti-inflammatory effect and hence useful to bring down pain and swelling.

Shuddhaguggulu promotes and supports comfortable movements of joints. *Guggulu* has very subtle and penetrating qualities and because of this, it is considered as *Yogavahi*, meaning that it is often employed specifically to carry other substances deep into tissue. Further its combination with other herbs actually lends direction to its powerful detoxifying and rejuvenating. *Guggulu* has an affinity for all tissue in the body.^[16]

Probable mode of action of Panchatiktha Ghrita Guggulu

In *Panchatiktha Ghrita Guggulu* predominance of *Tikta rasa* is there. To treat *Sandhigata Vata* drugs acting on both *Vata* and *Ashti* are selected. According to *Charaka*, in *Ashti Dhatu Dushti* the treatment should be given with *Tikta Dravya Ghrita* and *Ksheera*. *Tiktarasa* has *Vayu* and *Akasha mahabhuta* in dominance. Hence it has got affinity toward the body elements like *Asthi* having *Vayu* and *Akasha Mahabhuta* dominance. Though *Tikta rasa* aggravates *Vayu* which may enhance the pathogenic process of *Sandhigata Vata*, most of the ingredients have *Tikta rasa*, *Ushna veerya*, *Madhura* and *Katuvipaka*. *Tikta rasa* has got

Deepana, *Pachana*, *Rochana*^[17] it increases *Dhatwagni*. As *Dhatwagni* increases, nutrition of all *Dhatu*s will be increased. As a result *Ashtidhatu*, *Majja dhatu* may get stable and as a result *Sandhishaitilya* and *Sandhi Soushrya* will reduce. So degeneration in *Ashtidhatu* may not occur rapidly.

Tikta rasa is also has got *Jwaragna* and *Dahaprashamana* properties, it may act as anti-inflammatory agent and can reduce pain and swelling. *Ghrita* is *Vata Pitta Shamaka*, *Balya*, *Agni Vardhaka*, *Madhura*, *Soumya*, *Sheetavirya*, *Shula*, *Jwarahara*, *Vrushya* and *Vayastapaka* also.^[18] All these properties of *Ghrita* will reduce *Vata* and strengthen bone and joint. *Ghrita* has *Shula Hara* property which is analgesic and *Jwarahara* property as anti-inflammatory. This anti-inflammatory action may reduce swelling, temperature and tenderness. due to *Ushna* property of *Guggulu*, it is one among *Vatashamaka dravya*. Due to its *Ruksha* and *Vishadaguna* it acts as *Medohara*.

Being overweight is a clear risk factor for developing OA. Population based studies have consistently shown a link between overweight or obesity and knee OA. Estimating prevalence across population is difficult since definitions for obesity and knee OA vary among investigators. Data from the first National Health and Nutrition Examination Survey (HANES I) indicated that obese women had nearly 4 times risk of knee OA as compared with non-obese women; for obese men, the risk was nearly 5 times greater.^[19] According to *Sushruta Guggulu* has got *Lekhana* property which helps in reducing body weight. Reduction of body weight will also reduce pressure over joints and relieves pain. *Purana Guggulu* also acts as *Rasayana* which will help to prevent the degeneration of cartilage, ligament injuries in the body. Pharmacologically *Guggulu* has got properties of anti-inflammatory and antilipidemic action.^[20] The overall effect of *Panchatiktha Ghrita Guggulu* has found that drug is predominant in *Ushnavirya* which pacifies *Vata*.

CONCLUSION

In this era study, 40% of the patients were aged between 50-60 years were affected.

The *Nidana* and *Lakshana* explained in *Sandhigatavata* is almost similar to that of osteoarthritis of knee.

Old age, female, hereditary, obesity and repeated trauma related with occupation are the main risk factors for osteoarthritis knee joint.

Treatment responses to both drugs in terms of all subjective and objective parameters are significant in both groups

Rasnadi Guggulu and *Panchatitka Ghrita Guggulu* moderately reduced the signs and symptoms. People treated with *Rasnadi Guggulu* got more benefit in comparison with *Panchatitka Ghrita Guggulu*.

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