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Original Article

## Title of Article:

# Role of *Nidana Panchaka* in the Diagnosis of *Janusandhigata Vata* w.s.r to Knee Osteoarthritis: An observational study

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### ABSTRACT

As age advances *vata dosha* increases in an individual. This increasing *vata* triggers and accelerates *dhatu kshaya* (depletion of tissues) and *bala kshaya* (reduction of strength). *Sandhigata vata* is the commonest disorder that occurs due to *dhatukshaya*. *Vata dosha* plays the main role in this disease. *Shoola* is the cardinal feature of this disease, associated with *sandhishotha* and *vatapurnadrutisparsha*. *Sandhigata vata* manifests when the deranged *vata* lodges in joints. If the condition manifests in the *Janusandhi*, then it is called *Janu Sandhigata Vata*. *Sandhigata Vata* is co-related with Osteoarthritis (OA) described in modern science. Osteoarthritis is a chronic disorder of synovial joints in which there is a progressive softening and disintegration of articular cartilage accompanied by the growth of osteophytes. Literary review was collected from the *ayurvedic* classics, modern medicinal textbooks, medical magazines, journals, digital libraries. In this study, a minimum of 100 patients fulfilling the classical signs and symptoms and inclusion criteria were selected. An effort was made in this study to understand the role of *Nidana Panchaka of Sandhigata Vata* especially *Janusandhi* w.s.r to Osteoarthritis of the Knee joint, in all dimensions.

**Keywords:** *Janusandhigata Vata*, Knee Osteoarthritis, *Nidana Panchaka*

### INTRODUCTION

As age advances *vata dosha* increases in an individual. This increasing *vata* triggers and accelerates *dhatu kshaya* (depletion of tissues) and *bala kshaya* (reduction of strength).<sup>[1]</sup> *Sandhigata vata* is the commonest disorder, occurring due to *dhatukshaya*. *Vata dosha* plays a main role in the disease. *Shoola* is the cardinal feature of this disease, associated with *sandhi shotha* and *vatapurnadrutisparsha*. *Sandhigata Vata* manifests when the deranged *vata* lodges in joints.<sup>[2]</sup>

*Sandhigata Vata* can be co-related with Osteoarthritis (OA) described in modern science.<sup>[3]</sup> In Osteoarthritis, joint pain causes variation in the degree of functional limitations and also impairment in the quality of life. Osteoarthritis mainly occurs in peripheral joints like the knees, hips, & small joints.<sup>[4]</sup> It is a degenerative disease characterized by a gradual development of joint pain, stiffness, swelling, and limitations of movements. OA is a chronic disability. The degree of disability depends on the site involved and varies greatly between individuals. After the age of 40 majorities of the patients have some pathological abnormality in weight-bearing joints i.e. 25% of females and 16% of males have arthritis-related

history. Knee OA is more common in all types of osteoarthritis. A recent WHO report on the worldwide burden of the disease indicates that knee osteoarthritis alone is likely to become the 4<sup>th</sup> most important cause of disability in women and 8<sup>th</sup> in men [5]. In present study, an effort was made to understand and establish role in all dimensions of *Nidanapanchaka of Janu Sandhigata Vata* w.s.r knee joint osteoarthritis.

#### Objectives:

1. To study in detail and establish the diagnostic role of *Nidanapanchaka* in *Janu Sandhigata Vata*.
2. To study in detail about Osteoarthritis of knee joint according to modern texts.
3. To understand the co-relation between *Janu Sandhigata Vata* and Knee osteoarthritis.

## MATERIAL AND METHODS

#### Source of data

##### a) Literary source of data

The literary review was collected from the *ayurvedic* texts, modern medicinal textbooks, medical magazines, journals, digital libraries, conferences, and seminars, etc.

##### b) Clinical source of data

In this study, a minimum of 100 patients was selected from the Outpatient department & Inpatient department of Shri Siddharoodha Charitable Teaching Hospital of N.K.Jabshetty Ayurvedic Medical College & P.G

## OBSERVATIONS AND RESULTS

**Table 1: Age-wise distribution of male & female patients**

Age	M	%	F	%	Total
40-45	3	7.69	7	11.48	10
45-50	4	10.26	8	13.11	12
50-55	6	15.38	12	19.67	18
55-60	4	10.26	9	14.75	13
60-65	9	23.08	13	21.31	22
65-70	13	33.33	12	19.67	25
Total	39	100.00	61	100.00	100

Research Center, Bidar; other hospitals, and medical camps.

#### Methods of collection of data

Patients fulfilling the classical signs and symptom and inclusion criteria were selected for the study irrespective of religion, and socioeconomic status.

#### Inclusion criteria

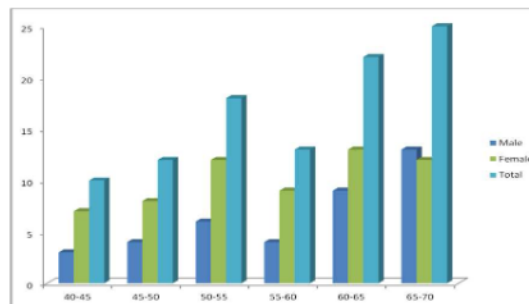
1. Patients fulfilling the classical signs and symptoms of *Janu Sandhigata Vata*.
2. Patients of either sex.
3. Patients suffering from primary osteoarthritis of the knee joint.
4. Patients having radiographic evidence of osteoarthritis like reduced joint space & osteophytes.

#### Exclusion criteria

1. Patients fulfilling the classical signs and symptoms of *Amavata*, *Vatarakta*, *Kroshrukashirsha*.
2. Patients suffering from fractures, dislocations, bony deformity, TB, and tumors of the knee joint.

#### Sample size estimation

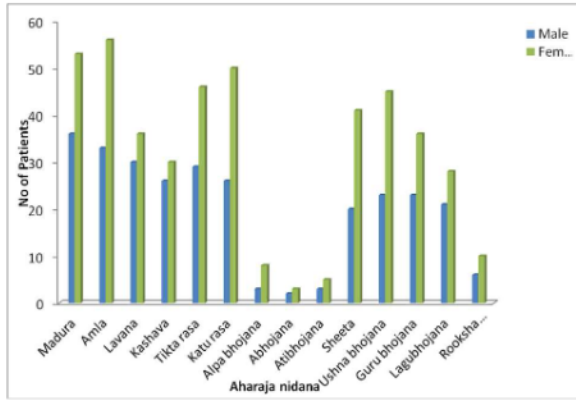
It is a clinical observational study of a minimum of 100 selected patients who were suffering from *Janusandhigata Vata* between the age group of 40-70 years with the help of special case proforma, with the details of history taking, physical signs, and symptoms as mentioned in our classics and allied sciences.



**Graph 1: Showing male and female ratio**

**Table 2: Aharaja nidana wise distribution of male and female patients**

Aharaja Nidana	Male	Percentage	Female	Percentage
Madhura	36	92.31	53	86.89
Amla	33	84.62	56	91.80
Lavana	30	76.92	36	59.02
Kashaya	26	66.67	30	49.18
Tikta rasa	29	74.36	46	75.41
Katu rasa	26	66.67	50	81.97
Alpa bhojana	3	7.69	8	13.11
Abhojana	2	5.13	3	4.92
Ati bhojana	3	7.69	5	8.20
Sheeta	20	51.28	41	67.21
Ushna bhojana	23	58.97	45	73.77
Guru bhojana	23	58.97	36	59.02
Laghu bhojana	21	53.85	28	45.90
Rooksha bhojana	6	15.38	10	16.39

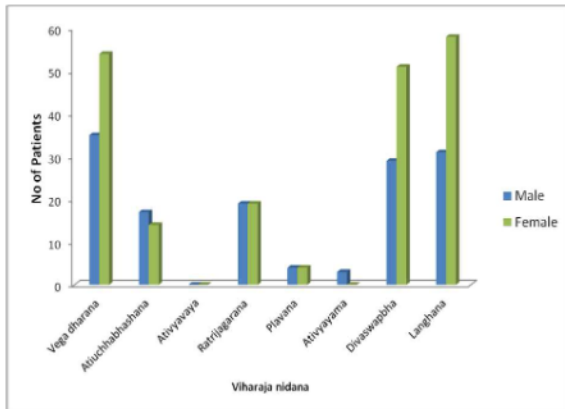


Graph 2: Aharaja nidana wise distribution of male and female patients

Table 3: Distribution of male and female patients

Viharaja Nidana	Male	Percent age	Female	Percent age
Vega dharana	35	89.74	54	88.52
Atiuchhabhashana	17	43.59	14	22.95
Ativyavaya	00	00	00	00.00
Ratrijagarana	19	48.72	19	31.15
Plavana	4	10.26	4	6.56
Ativyayama	3	7.69	0	0.00
Divaswapna	29	74.36	51	83.61
Langhana	31	79.49	58	95.08

Graph 3: Viharaja nidana wise distribution of male and female patients



Graph 4: Graph showing Poorvaroopavastaha

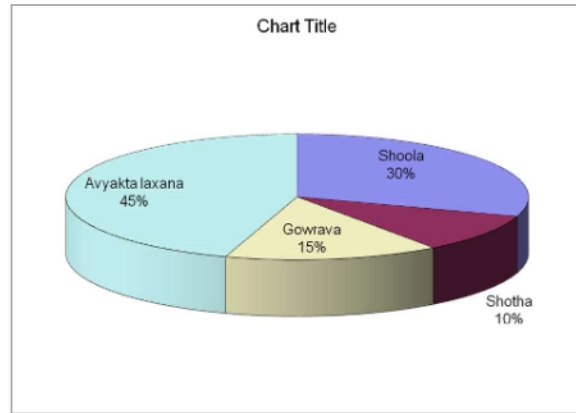
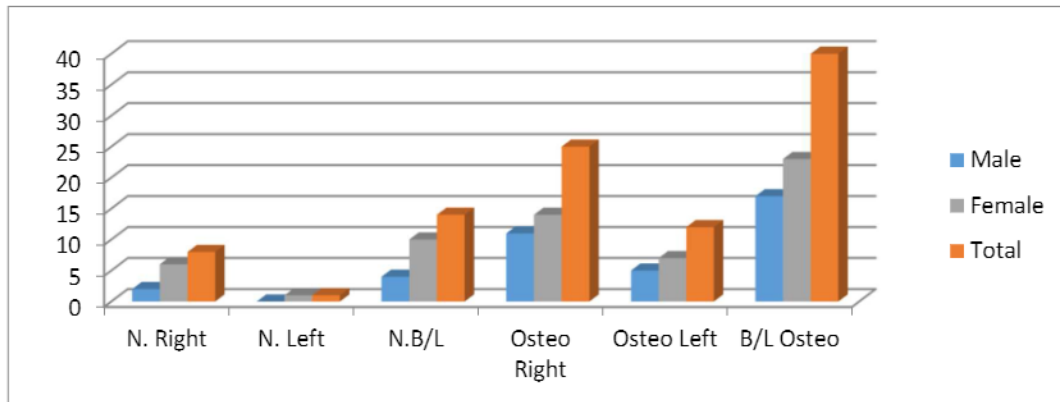


Table 4: lakshana wise distribution of male and female patients

Lakshanas	No of patients
Shoola	100
Shopha	100
Atopa	100
Vata poorna druti sparsha	100
Prasarana akunchana vedana	100

Table 5: Upashaya wise distribution of male and female patients

Upashaya	Male	Percentage	Female	Percentage	Total
Ushna	38	97.44	58	95.08	96
Ruksha	33	84.62	44	72.13	77
Sheeta	0	0.00	0	0.00	0
Snigdha	0	0.00	0	0.00	0



Graph 5: X-ray impression of male and female patients

## DISCUSSION

Research-based knowledge is the key to the development of this scientific world. All the researches require methodical work, coherent thoughts, logical ideas, and vivid discussions on the different aspects of the topic for the arrival to a specific conclusion. In this present study, various aspects of *Janusandhigatavata* have been explored.

**Concept of Gatatva /Gatavata:** *Sandhivata* is also named as *Sandhi Gatavata*. The concept of *Gatavata* is explained in almost all ayurvedic classics as *Gatatva* of different entities like *Dhatu*, *Upadhatu*, *Ashaya*, *Avayava* & *Indriya*<sup>[6]</sup>

**Sandhigata Vata:** The concept of *Gatavata* is explained in almost all Ayurvedic classics as *Gatatva* of different entities like *Dhatu*, *Upadhatu*, *Ashaya*, *Avayava* & *Indriya*. The word *Sandhigatavata* is also called *Sandhigata Anila* where the patient experiences *shotha*, on palpation feels like it's a bag filled with air, along with the *akunchana* and *prasarnayor vedana*<sup>[7]</sup> According to *Sushruta* due to *shoola* and *shotha*, there is a diminished movement of the joint.<sup>[8]</sup> According to *Madhava Nidana*, *Atopa* is the main symptom of *Sandhigatava*, instead of *shotha*, and mentioned one more symptom-*Hanti Sandhi*. In *Sandhigatavata* there is *shoola* and *shotha* and complete restriction of the joint in the later stage.<sup>[9]</sup>

**Osteoarthritis of Knee Joint:** The etymology is derived from the Greek word *Osteon* meaning bone, *Arthritis*: arthro - joint, itis - inflammation. Thus arthritis is the inflammation of the joints. This involves the joint and nearby structures like muscles, bone, ligaments, capsules & synovium. Previously it was believed that Osteoarthritis is simply a disease of 'wear and tear' that occurred in joints as people got older. Arthritic changes are due to mechanical, biochemical, or genetic effects.<sup>[10]</sup>

**Age:** Among the total observations there were 39 males & 61 females in the age group between 40-70 years, among them, 47 were in the age group of 60-70 years. This age group of patients above sixty years is called *vrudhavastha*. In *vrudhavastha*, *vata dosha* is predominant. *Sandhigatavata* is a *vatavyadhi*. Hence there were more patients in the age group of 60-70 years.

**Nidana (aharaja nidana):** among the total observations 89 persons consume *madhura* rasa, 89 consume *amla* rasa, 66 consume *lavana* rasa, 76 *katu* rasa, 75 *tikta* rasa, 56 *kashaya* rasa, *alpa bhojana* 11 persons, 5 *abhajana*, 8 *ati bhojana*, *sheeta* 61, *ushna* 68, *guru* 59

and 49 patients were consuming *laghu ahara*. Among them *madhura*, *amla*, *katu*, and *tikta* rasa consumption was high. Excess of *madhura* rasa produces weight gain and *ama*, in turn, *ama* produces *srotorodha*. Also, it hampers the *uttarottara dhatu* formation. *Katu* and *tikta* rasa are directly involved in the *vata vrudhi*.

**Viharaja nidana:** Among the total observations, 89 persons were having the *vegadharana* as *viharaja nidana* followed by *atiuccha bhashana* 31, *ratrijagarana* 38, *plavana* 08, *ativyayama* 03, *diwaswapna* 81, and *langhana* 89. Among them, *vegadharana* and *langhana* were seen more in number because of more no of females. *Vegadharana* causes *vata vrudhi* & *langhana* is one among the *apatarpana* remedy ultimately increasing *vata* in the body. *Langhana* also generates *dhatukshaya*.

**Poorvaroopo;** Within total observations, *shoola* 30 patients, *shotha* 10, *gowrava* 15 patients, 45 were having *avyakta lakshanas*. *Avyakta lakshanas* were obvious because none of the patients visited the opd in the *poorvaroopo* of the disease. And according to *acharyas* *poorvaroopo* of *vatavyadhi* is *avyakta* only.

**Lakshanas:** Within total observations, patients were fulfilling all the *lakshanas*.

**Upashaya:** Among all the patients maximum were having *ushna* as *upashaya* i.e 96, followed by *ruksha* as *upashaya*. *No sheeta* and *snigdha upashaya* patients were seen. *Ushna upashaya* is observed more because *Janusandhigatavata* has *shotha* as the main *lakshana* and *ushnata* reduces *shotha* as well as increases blood circulation to the particular area.

**Samprapti:** *Dhatukshyajanya* and *Avaranajanya* are the two important factors in the *samprapti* of *Janusandhigatavata*. *Dhatukshyajanya Sandhigatavata* occurs due to continuous intake of *vatakara ahara* and *vihara* and due to this, there is a depletion of *dhatu*s. In *Avaranajanya sandhigatavata*, there is continuous pressure on the weight-bearing joint due to obesity.

**Joints involved:** Within the total observations 8 patients had normal right knee joint, 1 had normal left knee joint, 14 had bilateral normal knee joint, 25 had osteoarthritis of the right knee joint, 12 had Osteoarthritis of the left knee joint and 40 had bilateral Osteoarthritis.

<b>Janu Sandhigata Vata</b>	<b>Knee Osteoarthritis</b>
<i>Age: Vrudhavastha</i>	Usually older age after 60
<i>had no specific Nidana</i>	no exact cause
<i>Poorvaroopo: Avyakta</i>	No Premonitory symptoms
<i>Shoola</i>	Pain
<i>Vata Purna Druti Sparsha</i>	Balloon, Bulge Sign, Bony Hypertrophy Rough, Dry – Degenerative Type
<i>Shotha/ Shopha</i>	Swelling
<i>Atopa</i>	Crepitus
<i>Hanti Sandhi</i>	Joint Damage Anatomically And Functionally
<i>Stabdhata</i>	Stiffness
<i>Prasarana Akunchanyo Pravrutti Savedana</i>	Pain On Movements

## CONCLUSION

From the above discussion, we can conclude that *Janusandhigata Vata* mainly occurs in *vrudhavastha*. Excessive intake of *madhura, amla, katu & tikta rasa* leads to *Janusandhigata Vata*. In *poorvaroopo avastha lakshanas* are *avyakta*. In *roopaavastha* patients showed all the classical *lakshanas* fully. *Ushna* is considered as *upashaya* in *Janusandhigata Vata* and considering the joints, bilateral knee involvement was more.

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