

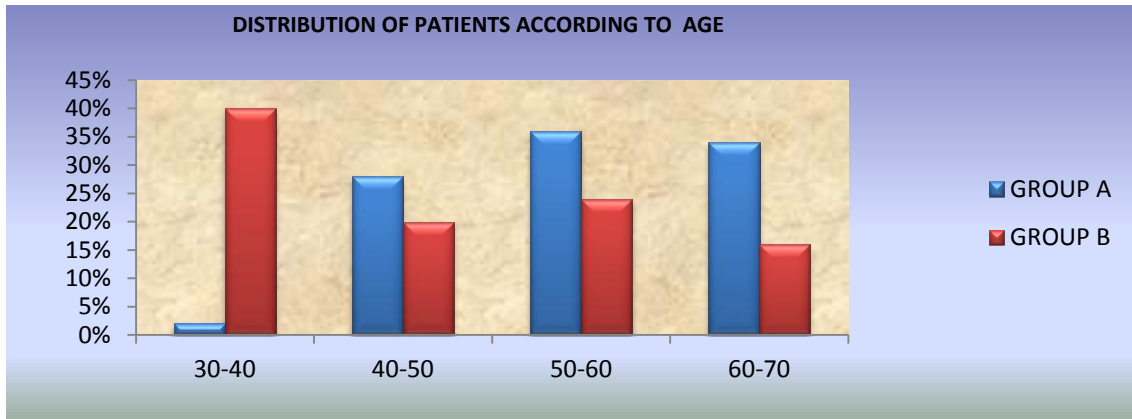
Observations and Results

Total 110 patients were allocated for this study. Group A- Jānubasti with Sahacar Tailaa and Group B-Agnikarma with Tāmraślākā. In group A, 53 patients were enrolled ; but 3 patients discontinued the treatment and f/u.Group-B ,57 patients were allocated. Out of these, 7 patients were dropped out .Thus two groups of 50 patients each were done. Complete data of 100 Patients is analyzed. After the clinical study of all patients, occurrences of various incidences are shown in the form of charts and Table numbers. Incidence of Age, sex, diet, Prakṛūṭī, occupational status, Knee involvement and symptoms with criteria are shown accordingly.

Table No 21: Number and percentage distribution of patients according to Age:

Age	Group A – Jānubasti		Group B –Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
30-40	1	2%	20	40%
40-50	14	28%	10	20%
50-60	18	36%	12	24%
60-70	17	34%	8	16%
Total	50	100%	50	100%

Graph No 1: Percentage wise distribution of patients according to age :



In Group A-Jānubasti, maximum number of Patients i.e.36 % were found in age group of 50-60 yrs. In the age group of 40-50 yrs. 28% patients were observed. Minimum patients were seen in the age group of 30-40 i.e.2%.

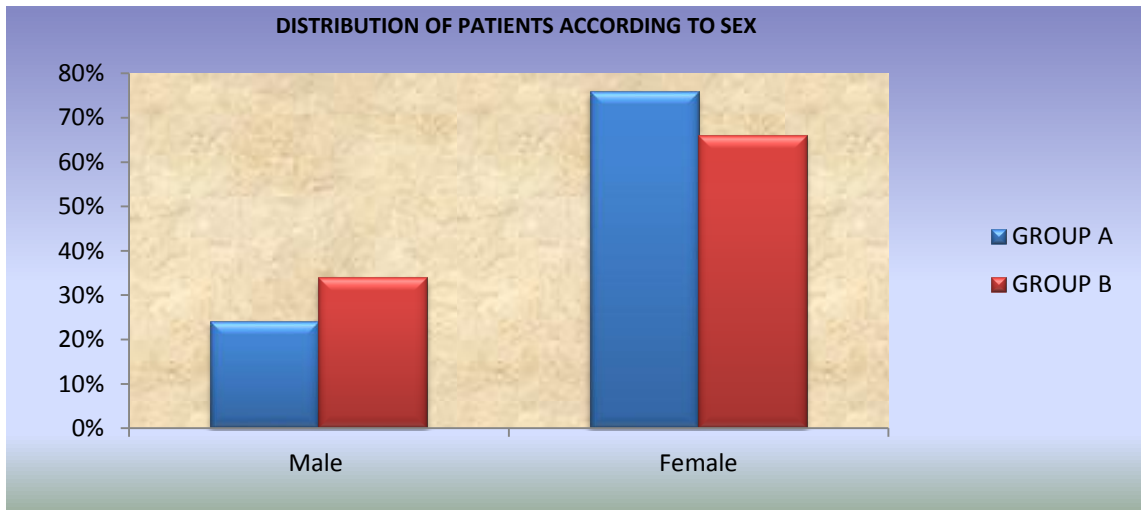
In Group B- Agnikarma minimum number of patients, were seen in the age group of 60-70 yrs. i.e. 16%. In the age group 50-60 yrs., 24% patients were observed. 20% patients were seen in 40-50yrs.of age group. Maximum number of patients i.e. 40% were found in age group of 30-40 yrs.

It reveals that as Jānusandhigata Vāta is Vāta dominant disease; maximum number patients were found in the age of 50-60 and 60-70 yrs. in Group A - Jānubasti. In Group B –Agnikarma maximum numbers of patients , were found in the 30-40 yrs. of age due to obesity and continuous standing work ,which can be considered as pressure on knee joint i.e. occupational knee bending.

Table 22: Number and Percentage wise Distribution of Patients According to Gender:

Sex	Group A - Jānubasti		Group B –Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
Male	12	24%	17	34%
Female	38	76%	33	66%
Total	50	100%	50	100%

Graph No 2: Percentage wise distribution of patients according to gender:



Group-A- maximum number of patients were female i.e. 76% and 24 % were males seen in this study.

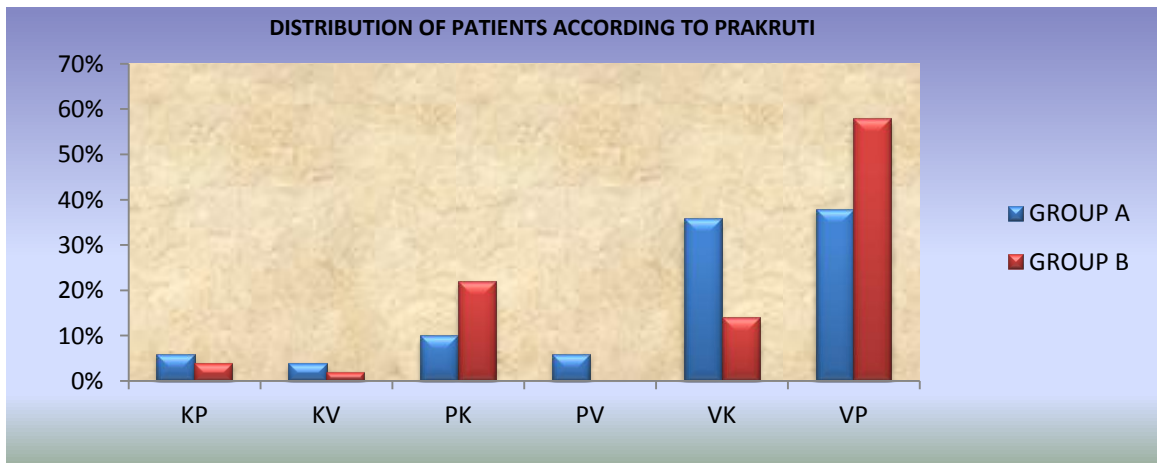
Group –B- In this also found maximum numbers of patients were female’s i.e. 66% and 34% male patients were seen.

This indicates that Jānusandhigata Vāta predominantly seen more in females owing to menopausal age and obesity.

Table No 23: Number and Percentage wise Distribution of Patients according to Prakṛutī:

Prakṛutī	Group A - Jānubasti		Group B- Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
KP	3	6%	2	4%
KV	2	4%	1	2%
PK	5	10%	11	22%
PV	3	6%	0	0%
VK	18	36%	7	14%
VP	19	38%	29	58%
Total	50	100%	50	100%

Graph No 3: Distribution of Patients According to Prakṛutī :



VP = Vāta Pitta Prakṛūtī, VK = Vāta Kapha Prakṛūtī,

PV = Pitta Vāta Prakṛūtī, PK = Pitta kapha Prakṛūtī ,

KV = Kapha Vāta Prakṛūtī , KP = Kapha Pitta Prakṛūtī

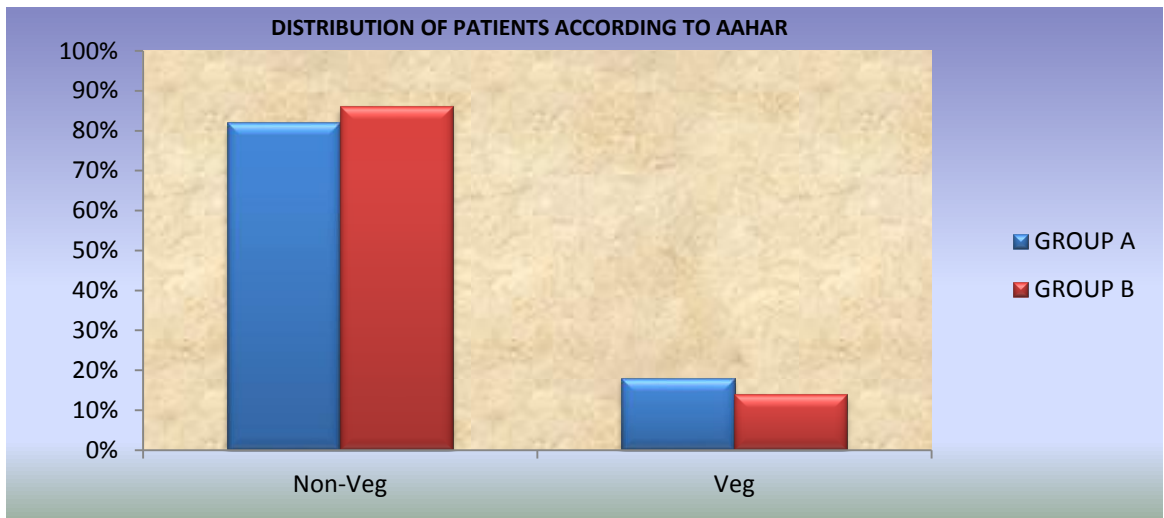
In Group A - Jānubasti maximum number of Patients i.e. 38 % were of Vāta-Pitta Prakṛūtī,, and minimum number of Patients i.e. 4% Kapha –Vāta Prakṛūtī. 6%,10%,6%,36% patients were found of KP,PK,PV and KV respectively.

Similarly in Group B –Agnikarma maximum number of Patients i.e. 58 % were belonged to Vāta-Pitta Prakṛūtī,, and minimum number of Patients i.e. 0% Pitta –Vāta Prakṛūtī.4%,2%,22%,14% patients were found KV,PK,PV and VK respectively.

Table No 24: Number and Percentage Wise Distribution of Patients According to Āhār:

Āhār	Group A – Jānubasti		Group B-Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
Non-Veg	41	82%	43	86%
Veg	9	18%	7	14%
Total	50	100%	50	100%

Graph No 4: Percentage Wise Distribution of Patients According to Āhār :

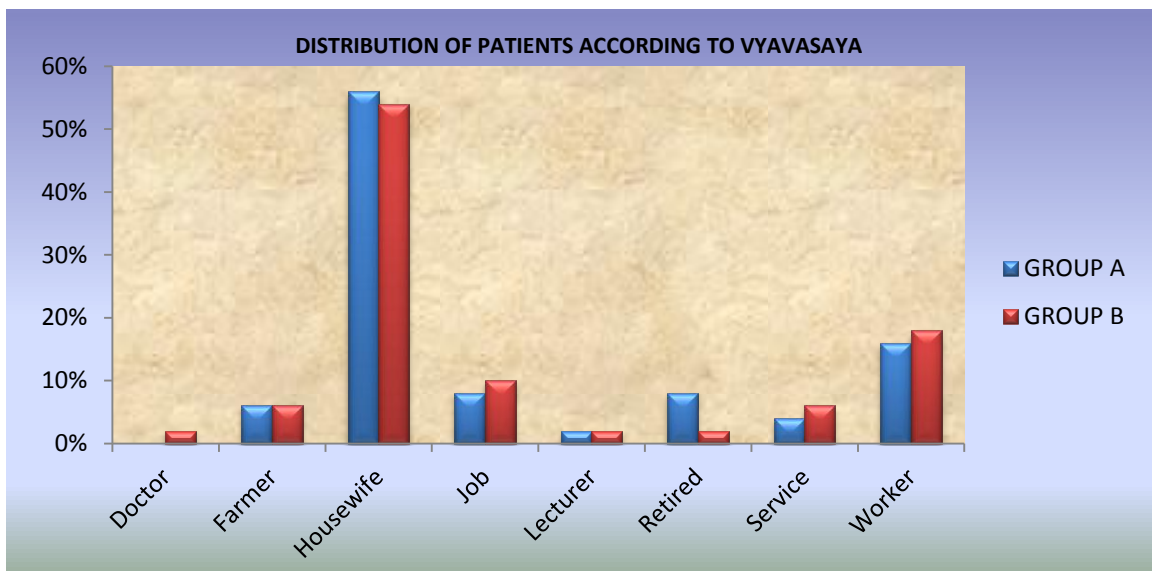


There was maximum number of patients i.e. 82% and 86 % were non vegetarian and minimum i.e.18 % and 14% were vegetarian in Group A - Jānubasti and Group B – Agnikarma respectively. It conceals that maximum patients of Janusandhigata Vata were found in Non Vegetarians. Due to Non-Vegetarian food (Katu rasa) its vitiating Vāta Doṣa leads to Jānusandhigata Vāta.

Table No 25. Number and Percentage wise Distribution of Patients According to Occupation:

Occupation	Group A - Jānubasti		Group B-Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
Doctor	0	0%	1	2%
Farmer	3	6%	3	6%
Housewife	28	56%	27	54%
Job/ IT	4	8%	5	10%
Lecturer	1	2%	1	2%
Retired	4	8%	1	2%
Service (Gov.)	2	4%	3	6%
Worker	8	16%	9	18%
Total	50	100%	50	100%

Graph 5: Percentag wise Distrubtion of Patients According to Occupation :

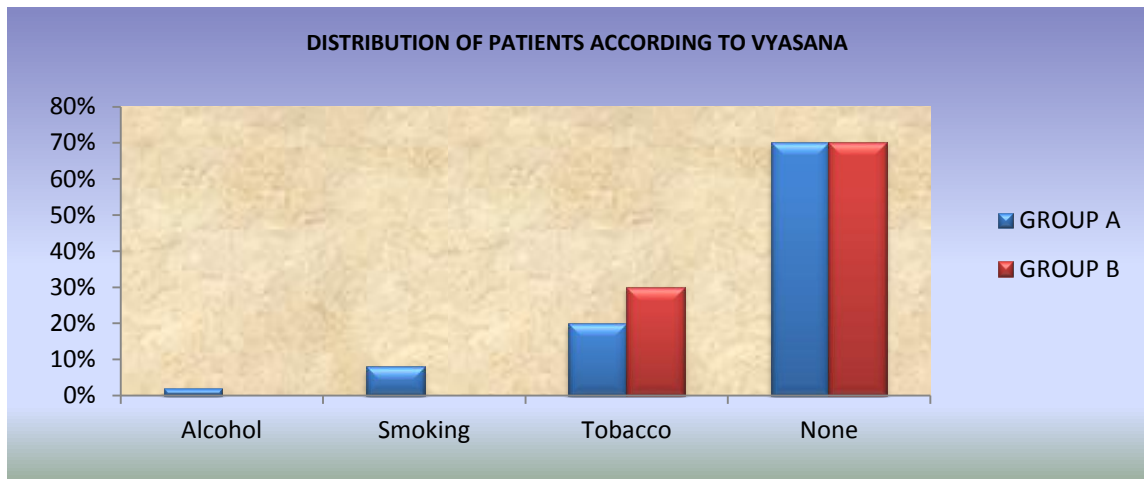


On considering the nature of occupation, it was found that maximum i.e. 56% and 54% of patients were housewives in Group A - Jānubasti as well as Group B –Agnikarma.

Table No 26. Number and Percentage wise Distribution of Patients According to Vyasana:

Vyasana	Group A - Jānubasti		Group B- Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
Alcohol	1	2%	0	0%
Smoking	4	8%	0	0%
Tobacco	10	20%	15	30%
None	35	70%	35	70%
Total	50	100%	50	100%

Graph 6: Percentage wise Distribution According to Vyasana :



This graph showed that maximum i.e. 70% patients were having no any addiction in Group A - as well as in Group B. , and minimum number of patients in Group A - Jānubasti i.e.2% having alcohol addiction.

Table No 27 : Number and Percentage wise Distribution of Patients According to Marital Status:

Marital Status	Group A - Jānubasti		Group B –Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
Married	50	100%	48	96%
Unmarried	0	0%	2	4%
Total	50	100%	50	100%

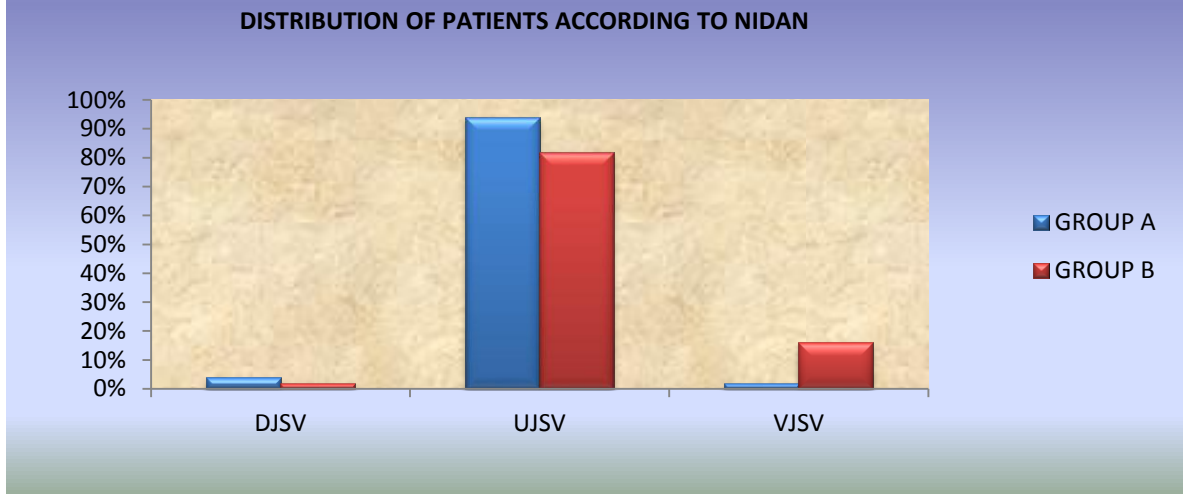
Graph 7: Percentage wise Distribution of Patients According to Marital Status:

It was found that maximum number of patients .i.e. 100 % and 96 % were married, while 0 % and 4 % Patients were Unmarried in Group A - Jānubasti and Group B –Agnikarma respectively. It’s may be due to inclusive selection criteria after 30 yrs of age group.

Table No 28: Number and Percentage wise Distribution of Patients According to Nidān:

Nidān	Group A - Jānubasti		Group B – Agnikarma	
	Number of Patients	Percentage	Number of Patients	Percentage
DJSV	2	4%	1	2%
UJSV	47	94%	41	82%
VJSV	1	2%	8	16%
Total	50	100%	50	100%

Graph No 8: Percentage wise Distribution of Patients According to Nidān:



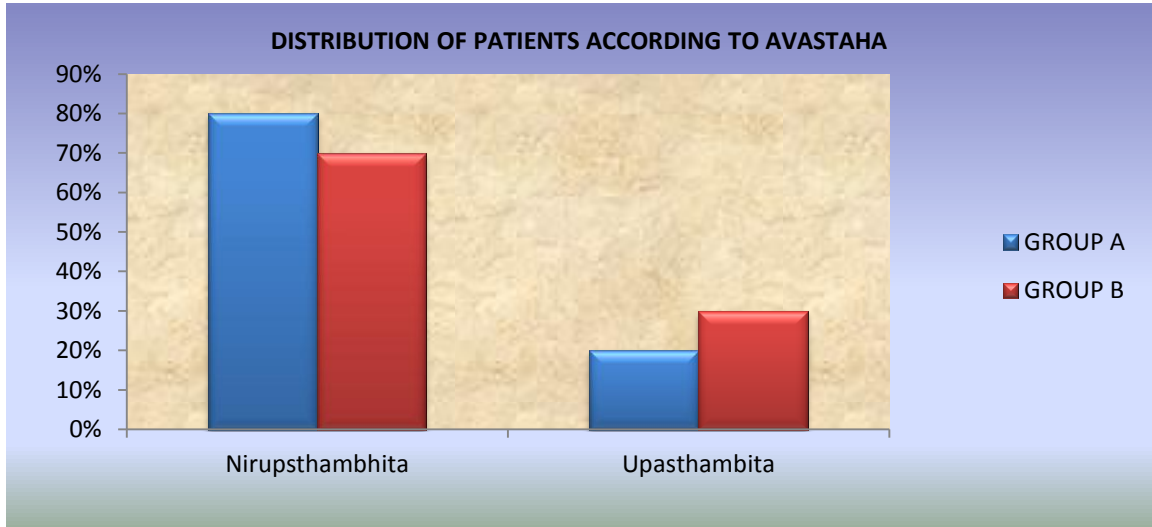
In Group A – Jānubasti i.e. patients treated with Jānubasti with Sahacar Taila, maximum number of Patients were found i.e. 94 % were Ubhyajānusandhigata Vāta (UJSV)

4% DJSV (Dakṣiṇa Jānusandhigata Vāta) and 2% and VJSV (Vāma Jānusandhigata Vāta) respectively. Patients treated with Agnikarma with Tāmraśālakā i.e. Group B, maximum number of Patients were found i.e. 82 % were UJSV(Ubhya Jānusandhigata Vāta),2% DJSV (Dakṣiṇa Jānusandhigata Vāta) and 16% of VJSV ((Vāma Jānusandhigata Vāta)) respectively.

Table No 29. Number and Percentage wise Distribution of Patients According to Avastahā:

Avasthā	Group A - Jānubasti		Group B- Agnikarma	
	Number of Patients	percentage	Number of Patients	percentage
Nirupsthambhita	40	80%	35	70%
Upasthambhita	10	20%	15	30%
Total	50	100%	50	100%

Graph No 9: Percentage wise Distribution of Patient According to Avasthā:



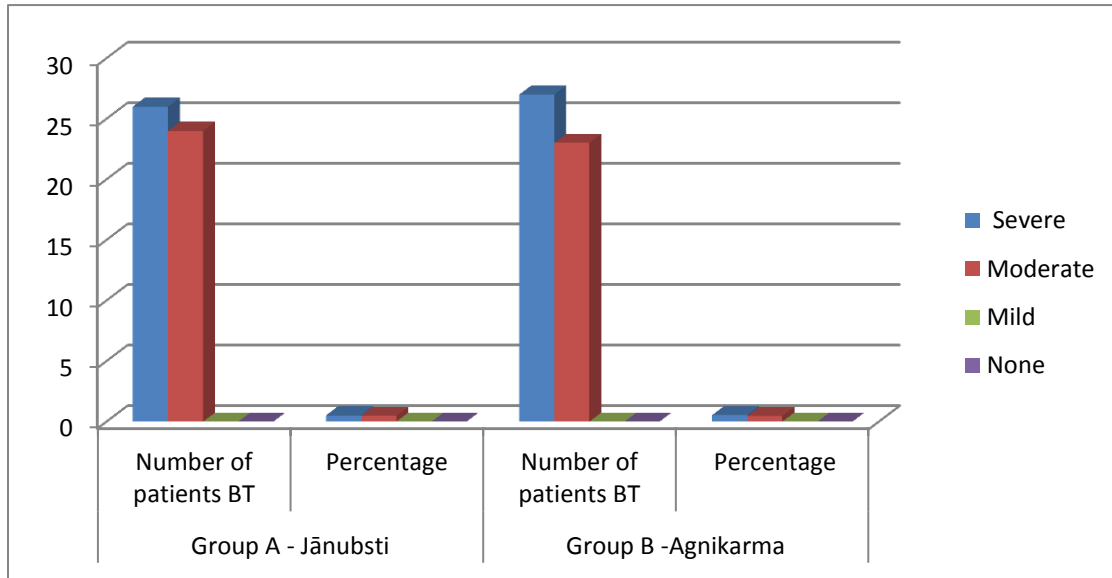
This shows that maximum number of patients i.e. 80 % and 70 % were Nirupsthambhita and 20 % and 30 % were Upasthambhita in Group A - Jānubasti and Group B – Agnikarma respectively.

Its reveals that maximum patients, were found in Nirupstambhit Jānusandhigata Vāta due to Osteophytes , obesity and knee bending.

Table No 30: Assessment Criteria Before Treatment of Group A - Jānubasti and Group B -Agnikarma:

Grade	Group A - Jānubasti		Group B -Agnikarma	
	Number of patients BT	Percentage	Number of patients BT	Percentage
Severe	26	52%	27	54%
Moderate	24	48%	23	46%
Mild	0	0%	0	0%
None	0	0%	0	0%

Graph No 10: Assessment Criteria Before Treatment of Group A - Jānubasti and Group B- Agnikarma:



Maximum no of patients were found in severe (52%) and moderate (48%) grade in Group A - Jānubasti as well as Group B –Agnikarma i.e. severe (54%) and moderate (46%) respectively.

Its conceals that maximum patients were found in severe and moderate grade due to ignorant of symptoms.

Statistical Analysis

- ✓ **For qualitative data:**(Subjective parameter- Śula, Śoṭha and Sparśāsahatva)
The obtained information was analyzed statistically by using **Friedman test** and for comparison **mann whitney u** test was carried out.
- ✓ **For quantitative data:** (Objective parameter ,Ānkuncan - Prasāranjanya Vedanā, Sandhispuṭan and Sakaṣṭacalan)
For the assessment of the results guideline laid down by classical text of Ayurveda as well as parameters suggested the results obtained were statistically analyzed and Mean, S.D., S.E. z value and P value were calculated by using the **repeated measures of ANOVA** and for comparison **two sample t test** was carried out.

Note: As sample size was greater than 30 the answers are same as z test by software.

I. Efficacy of Jānubasti and Agnikaram In Jānusandhigata Vāta :

Table No 31: Efficacy of Jānubasti and Agnikarama on Śula:

Grade	Group A - Jānubasti (Jānubasti)						Group B -Agnikarma(Agnikarama)					
	BT		AT		2nd follow up		BT		AT		2nd follow up	
	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage
0	0	0%	18	36%	46	92%	0	0%	19	38%	43	86%
1	0	0%	29	58%	4	8%	0	0%	28	56%	7	14%
2	24	48%	3	6%	0	0%	32	64%	3	6%	0	0%
3	26	52%	0	0%	0	0%	18	36%	0	0%	0	0%
Total	50	100%	50	100%	50	100%	50	100%	50	100%	50	100%

Graph No 11: Efficacy of Jānubasti and Agnikarama on Śula.

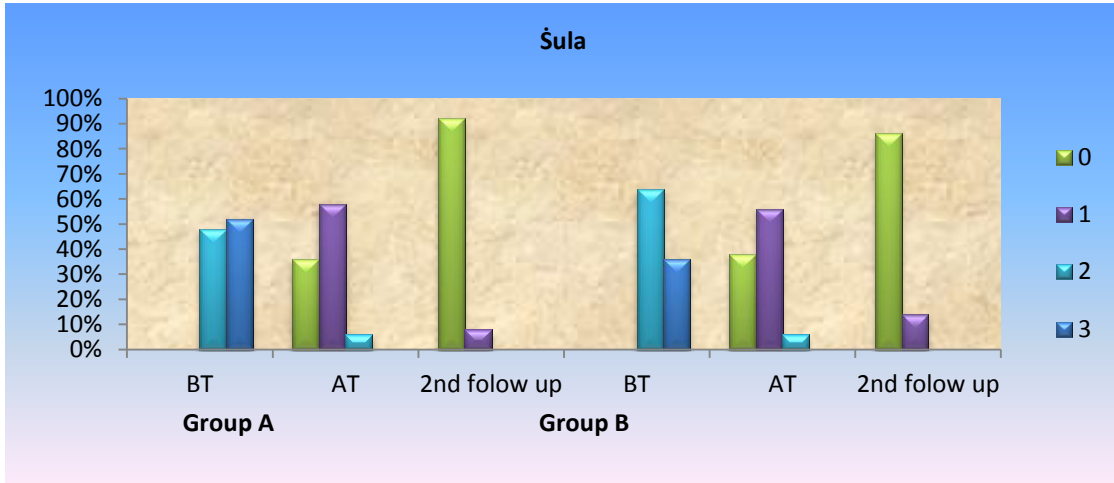


Table No 32: Efficacy of Jānubasti and Agnikarma on Śula BT, AT & after 2nd F/u

Śula		Mean Rank	Chi sq.	DF	P value
Group A - Jānubasti	AT	3	92.16	2	0
	BT	1.79			
	2 nd Follow up	1.21			
Group B	AT	3	88.95	2	0
	BT	1.76			
	2 nd Follow up	1.24			

This analysis indicates that there, were highly significant improvement observed in Group A - Jānubasti as well as Group B –Agnikarma on Śula in Jānusandhigata Vāta. However there was significant difference in after treatment and 2nd follow up in Jānusandhigata Vāta, for improvement observed in both group.

Table No 33: Efficacy of Jānubasti and Agnikarma on Śoṭha:

Grade	Group A - Jānubasti						Group B -Agnikarma					
	BT		AT		2nd follow up		BT		AT		2nd follow up	
	Num ber of Patie nts	Perc entag e	Num ber of Patie nts	Perce ntage	Nu mbe r of Pati ents	Perce ntage	Numb er of Patie nts	Perc enta ge	Nu mbe r of Pati ents	Perc enta ge	Num ber of Patie nts	Perc entag e
0	0	0%	20	40%	49	98%	0	0%	17	38%	44	88%
1	0	0%	28	56%	1	2%	3	0%	31	56%	6	12%
2	36	72%	2	4%	0	0%	38	64%	2	6%	0	0%
3	14	28%	0	0%	0	0%	9	36%	0	0%	0	0%
Total	50	100%	50	100%	50	100%	50	100%	50	100%	50	100%

Graph 12: Efficacy of Jānubasti and Agnikarma on Śoṭha:

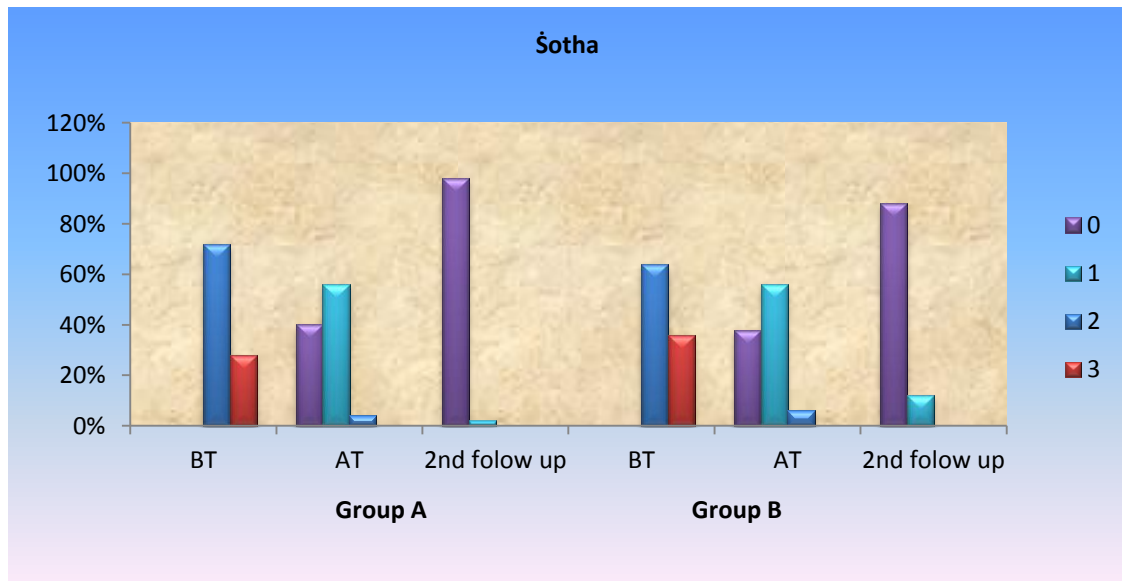


Table No 34: Efficacy of Group A - Jānubasti and Group B- Agnikarma on Śoṭha BT, AT and after 2nd F/u :

Śoṭha		Mean Rank	Chi sq	DF	P value
GroupA	BT	3	93.196	2	0
	AT	1.79			
	2 nd Follow up	1.21			
GroupB	BT	2.96	88.773	2	0
	AT	1.82			
	2 nd Follow up	1.22			

I.e. Results of this analysis indicates that there, were highly significant improvement observed in Group A - Jānubasti as well as Group B -Agnikarmaon Śoṭha in Jānusandhigata Vāta. However there was significant difference After treatment and 2nd follow up in JānusandhigataVāta, for improvement observed in Group A - Jānubasti as well as Group B- Agnikarma.

Table No 35: Efficacy of Jānubasti (Group A - Jānubasti) and agnikarma (Group B) on Sparṣāsahatva:

Grade	Jānubasti (Group A - Jānubasti)						Agnikarma (Group B)					
	BT		AT		2nd follow up		BT		AT		2nd follow up	
	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage	Number of Patients	Percentage
0	0	0%	23	46%	48	96%	0	0%	19	38%	46	92%
1	0	0%	25	50%	2	4%	0	0%	25	56%	4	8%
2	38	76%	2	4%	0	0%	39	64%	6	6%	0	0%
3	12	24%	0	0%	0	0%	11	36%	0	0%	0	0%
Total	50	100%	50	100%	50	100%	50	100%	50	100%	50	100%

Graph 13 :Efficacy of Jānubasti and Agnikarma on Sparṣāsahatva :

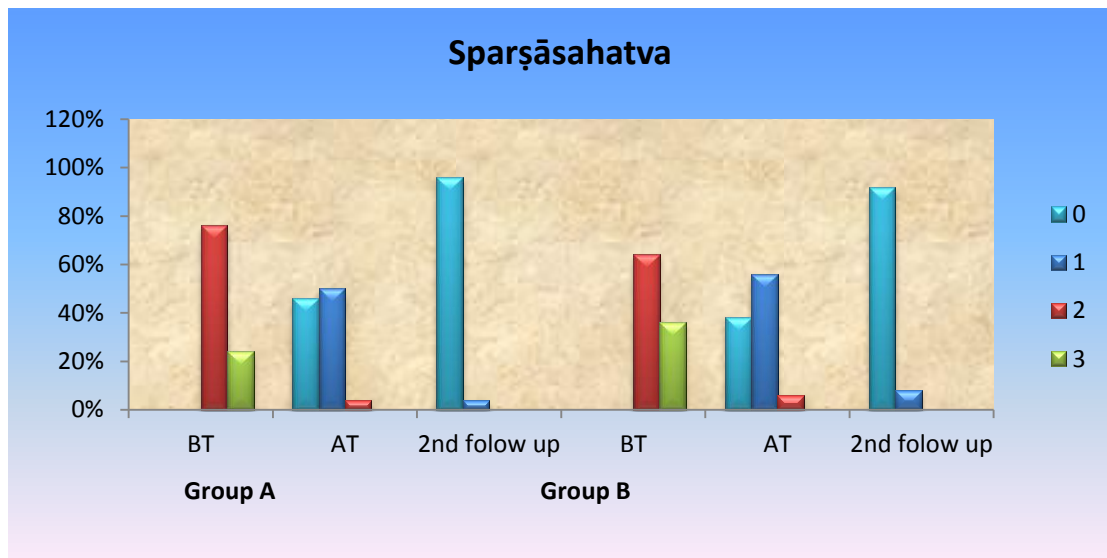


Table No 36: Efficacy of Jānubasti and Agnikarma BT, AT and After 2nd f/u on Sparṣāsahatva :

Sparṣāsahatva		Mean Rank	Chi sq	DF	P value
GroupA	Pre	3	100	2	0
	Post	1.5			
	2 nd Follow up	1.5			
GroupB	Pre	3	93.49	2	0
	Post	1.81			
	2 nd Follow up	1.19			

Results of this analysis indicates that there, were highly significant improvement observed in Group A - Jānubasti as well as Group B -Agnikarma on Sparṣāsahatva in Jānusandhigata Vāta. However there was significant difference, after treatment and after 2nd f/u in Jānusandhigata Vāta, for improvement observed in Group A - Jānubasti as well as Group B -Agnikarma

Table No 37: Efficacy of Group A - Jānubasti and Group B –Agnikarma on Ākunchanjanya Vedanā –RT knee : Efficacy of Jānubasti on Ākunchanjanya Vedanā of RT Knee.

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	49548.3	49548	372.5	0.94	0.6
follow up	2	121809	15325	7662.5	19.4	0
Error	14	5541.7	5541.7	395.8		
Total	149	176899				

Here, SSb (Sum of square block) was 121809 and SSe (Sum Square error) was 5541.7 The p-value was .000 and thus we reject the null hypothesis and conclude that there was significant difference in after treatment and after 2nd follow up.

Table No 38: Efficacy of Agnikarama (Group B) on Ākuncanajanya Vedanā of Rt Knee:

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	74216	74216	558	8.68	0
follow up	2	55801.3	9100	4550	70.8	0
Error	14	900	900	64.3		
Total	149	130917				

I.e. Results of this analysis indicates that there, were highly significant improvements observed in Group A - Jānubasti as well as Group B -Agnikarmaon Ākuncanajanya Vedanā in JānusandhigataVāta However significant difference in after treatment and after 2nd follows up and in Jānusandhigata Vāta, for improvement observed in Group A - Jānubasti as well as Group B -Agnikarma.

Table No 39: Efficacy of Jānubasti & Agnikarma on Ākuncanajanya Vedanā of LT knee- Effect of Jānubasti on Ākuncanajanya Vedanā of LT Knee :

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	52625.3	52625	395.7	0.77	0.8
follow up	2	118384	12433	6216.7	12.1	0
Error	14	7166.7	7166.7	511.9		
Total	149	178176				

Here, SSb (Sum of square block) was 118384 and SSe (Sum of square error) was 7166.7. The p-value was 0.000 and thus we reject the null hypothesis and conclude that there was significant difference in follow up of treatment.

Table No 40: Efficacy of Agnikarama on Ākuncanajanya Vedanā of LT Knee:

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	54758	54758	411.7	6.4	0
follow up	2	77601.3	9100	4550	70.8	0
Error	14	900	900	64.3		
Total	149	133259				

I.e. Results of this analysis indicates that there, was highly significant improvement observed in Group A - Jānubasti as well as Group B -Agnikarmaon Ākuncanajanya Vedanā in JānusandhigataVāta. However significant difference is after treatment and after 2nd follow up in Jānusandhigata Vāta, for improvement observed in Group A - Jānubasti as well as Group B -Agnikarma.

Table No 41 : Efficacy of Jānubasti and Agnikarma on Prasāraṅjanya Vedanā of RT knee: Effect of Jānubasti on Prasāraṅjanya Vedanā of RT knee:

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	197260	197260	1483	1.21	0.4
follow up	2	94625	18925	9462	7.73	0
Error	14	17142	17142	1224		
Total	149	309027				

Here, SSb (sum of square block) was 94625 and SSe (sum of square error) was 17142
The p-value was 0.000 and thus we reject the null hypothesis and conclude that there, was significant difference in After 2nd follow up .

Table No 42: Efficacy of Agnikarma on Prasāraṅjanya Vedanā of RT knee:

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	151507	151507	1139	0.5	1
follow up	2	109409	3433	1717	0.75	0.5
Error	14	31967	31967	2283		
Total	149	292883				

I.e. Results of this analysis indicates that there, were highly significant improvement observed in Group A - Jānubasti as well as Group B -Agnikarmaon **Prasāraṅjanya Vednā** in JānusandhigataVāta. However there was significant difference is After treatment and after 2nd follow up in Jānusandhigata Vāta, for improvement observed in Group A - Jānubasti but no significant difference in treatment and after 2nd follow up Jānusandhigata Vāta, for improvement observed in Group B.

Table No 43: Efficacy of Jānubasti , Agnikarma on Prasāraṅjanya Vedanā of LT knee :Efficacy of Jānubasti on Prasāraṅjanya Vedanā of LT Knee:

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	203861	203861	1533	1.3	0.3
follow up	2	87568	12133	6067	5	0
Error	14	17067	17067	1219		
Total	149	308496				

Here, SSb (Sum of square block) was 87568 and SSe (sum of square error) was 17067. The p-value was 0.001 and thus we reject the null hypothesis and conclude that there, was significant difference in after treatment and after 2nd follow up.

Table No 44: Efficacy of Agnikarama on Prasāraṅjanya Vedanā of LT knee.

Source	DF	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	129941	129941	977	0.4	1
follow up	2	132729	3433	1717	0.8	0.5
Error	14	31967	31967	2283		
Total	149	294637				

I.e. Results of this analysis indicates that there, were highly significant improvements observed in Group A - Jānubasti as well as Group B -Agnikarmaon **Prasāraṅjanya Vedanā** in Jānusandhigata Vāta. However there was significant difference in After treatment and After 2nd follow up in JānusandhigataVāta, for improvement observed in Group A - Jānubasti but no significant difference in 2nd follow up and post treatment in JānusandhigataVāta, for improvement observed in Group B.

Table No 45: Efficacy of Jānubasti and Agnikarma on Sandhisputana:

1. Efficacy of Jānubasti on Sandhisputana:

Source	Df	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	22053.2	22053.2	165.8	1.62	0.152
follow up	2	79974.8	13286.6	6643.3	64.97	0
Error	14	1431.4	1431.4	102.2		
Total	149	103459.4				

Here, SSb (sum of square block) was 79974.8 and SSw (sum of square error) was 1431.4. The p-value was 0.000 and thus we reject the null hypothesis and conclude that there was significant difference in After treatment and 2nd follow up.

Table No 46: Efficacy of Agnikarma on Sandhisputana:

Source	Df	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	22424	22424	168.6	1.17	0.393
follow up	2	65997.4	13587.6	6793.8	47.03	0
Error	14	2022.4	2022.4	144.5		
Total	149	90443.8				

I.e. Results of this analysis indicates that there were highly significant improvements observed in Group A - Jānubasti as well as Group B - Agnikarma on Sandhisputana in Jānusandhigata Vāta. However, significant differences in 2nd follow up and post treatment in Jānusandhigata Vāta, for improvements observed in Group A - Jānubasti as well as Group B - Agnikarma.

Table No 47 : Efficacy of Jānubasti and Agnikarma On Sakaṣṭacalan:

1. Efficacy of Jānubasti on Sakaṣṭacalan:

Source	Df	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	8230	8230	61.88	1.24	0.341
follow up	2	37049.33	3700	1850	37	0
Error	14	700	700	50		
Total	149	45979.33				

Here, SSb (sum of square block) was 37049.33 and SSe (sum of square error) was 700. The p-value was 0.000 and thus we reject the null hypothesis and conclude that there was significant difference in After treatment and after 2nd follow up of treatment.

Table No 48. Efficacy of Agnikarma on Sakaṣṭacalan:

Source	Df	Seq SS	adj SS	adj MS	F	P value
Patient No.	133	9535.67	9535.67	71.7	0.95	0.595
follow up	2	31025.33	2608.33	1304.17	17.25	0
Error	14	1058.33	1058.33	75.6		
Total	149	41619.33				

I.e. Results of this analysis indicates that there, were highly significant improvement observed in Group A - Jānubasti as well as Group B -Agnikarma on **Sakaṣṭacalan** in Jānusandhigata Vāta. However significant difference in after treatment and After 2nd follow up in Jānusandhigata Vāta, for improvement observed in Group A - Jānubasti as well as Group B.

Symptoms wise statistically significant effect of Jānubasti and Agnikarma:

Śūla: As seen previously the reduction in Vedanā is statistically significant on 7th day as well as on 30th day. Also mean rank is not decreased from 7th day to 30th day in both treatment i.e. Jānubasti and Agnikarma. Suggesting that Jānubasti with Sahacar Taila and Agnikarma with Tāmraśalāka reduces Śūla significantly and its efficacy has considerable sustainability even after the end of treatment.

Śoṭha : The average reduction in the Śoṭha was found .along with the statical analysis, indicate that the reduction in Śoṭha is significant. Also its Efficacy not only sustains but gets better even when the after treatment in both groups.

Spraśāsahatava: In the trial reduction in this symptom was seen in after treatment in both group. Data was highly significant even after the 2nd f/u.

-Ānkuncanjanya- Prasāraṇa Vedanā: Reduction in this symptoms is highly significant on 7th day as well as 30th day. Also mean rank remains constant from After treatment and after 2nd f/u in both group. The range of motion of both knee joint is back to normal after treatment, it's due to properties of sahar Taila and Agnikarma.

Sandhispuṭan: Statistically showing significant result in both treatments while by observing, there is no reduction in this symptoms was seen. As crepitus is caused due to degeneration of the structures in the knee joint hence it is quite difficult to correct the degeneration in such short period .So due to this reason the crepitus remain unchanged.

Sakaṣaṭacalan (Walking time) : It is rate at which a patient is able to walk the distance of 21 meters . It is calculated in seconds and found to be increased if knee joint are involved in some kind of disorder. The average reduction in the walking time is decreased after treatment as well after 2nd f/u. These values are found highly significant. It can be stated that Jānubasti with Sahacara Taila and Agnikarama with Tāmraśalākā provides good overall relief in Jānusandhigata Vāta., which reflected in the faster walking by patients i.e. reduction in walking time.

Overall Efficacy of Therapy:

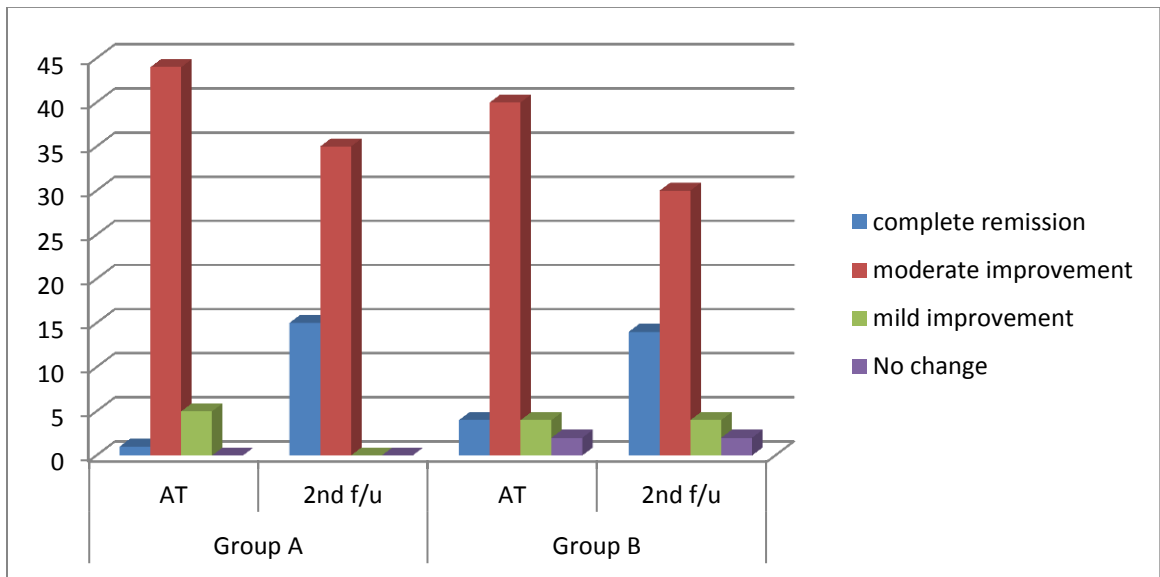
Total Efficacy of therapy was assessed as:

- ✓ Complete remission – 0 Grade
- ✓ Moderate improvement- 1-7 Grade
- ✓ Mild improvement – 8-15 Grade
- ✓ Unchanged – 16-21 Grade

Table No 49: Overall Efficacy of therapy.

Gradation	Group A - Jānubasti				Group B			
	AT	Percentage	2nd f/u	Percentage	AT	Percentage	2nd f/u	Percentage
complete remission	1	2%	15	30%	4	8%	14	28%
moderate improvement	44	88%	35	70%	40	80%	30	60%
mild improvement	5	10%	0	0%	4	8%	4	8%
No change	0	0%	0	0%	2	4%	2	4%

Graph 14: Overall Efficacy of therapy :



- In Jānubasti Gr. 2% after treatment and 30% after 2nd f/u had complete remission with 100% relief, 88% after treatment and 70% after 2nd f/u had moderate improvement, 10 % had mild improvement.
- In Agnikarma Gr. Gr. 8% after treatment and 28% after 2nd f/u had complete remission with 100% relief, 80% after treatment and 60% after 2nd f/u had moderate improvement, 8 % had mild improvement. 2% had no change found in all symptoms of Jānusandhigata Vāta.
- The external Snehana Swedana therapies are extensively practiced in Sandhigata Vāta. The present clinical study has been conducted to **evaluate the Efficacy of Jānu Basti With Sahachar Taila & Agnikarma With Tamraśalāka In Jānu Sandhigata Vāta.**
- Statistically highly significant reduction in Śula (pain) Sandhisputhan and walking Time signifies that Jānubasti with Sahacar Taila brings considerable overall relief in the presentation of this disease.
- Agnikarma therapy is helpful in management of local pathological disease. Agnikarma procedure proves to be one of the easiest ways to reduce the symptoms of Jānusandhigata Vāta.
- Agnikarma had a significant effecting relieving from acute as well as chronic Pain and swelling.
- Sahacar Taila Jānubasti brings about Vātaśaman Properties, Bruhana as well as Pācan with its qualities, thus suggesting the breaking of pathogenesis in Jānusandhigata Vāta.
- Agnikarma can cure all the Vātaj and Kaphaj disorders as Uṣṇa Guṇa of Agnikarma is apposite to that of Vāta Kapha Doṣas. According to Ayurveda every Dhātu, have its own Dhātwāgni, when it becomes low, disease begins to manifest. In this condition, Agnikarma works giving external heat therapy by increasing Dhātwāgni which helps to digest aggravated Doṣa and cures the disease.

II Comparative Study of Jānubasti and Agnikarma in Jānusandhigata Vāta :

Table No 50: Comparative Efficacy of Jānubasti and Agnikarma on Śūla in Jānusandhigata Vāta :

Śūla	N	Mean of ranks	Sum of Ranks	Mann Whitney U test	Z value	p value
Group A - Jānubasti	50	50.97	2548.5	1226.5	-0.185	0.853
Group B	50	50.03	2501.5			

There, was no statistically significant difference in improvement on Śūla ,found in JānusandhigataVāta. i.e. efficacy of Group A - Jānubasti was same as efficacy of Group B -Agnikarmaon Śūla in JānusandhigataVāta.

Table No 51. Comparative Efficacy of Jānubasti and Agnikarma on Śoṭha in Jānusandhigata Vāta:

Śoṭha	N	Mean of ranks	Sum of Ranks	Mann Whitney U test	Z value	p value
Group A - Jānubasti	50	49.06	2453	1178	-0.575	0.565
Group B - Agnikarma	50	51.94	2597			

Here p value is >0.005 , there, was no statistically significant difference in improvement on **Śoṭha**, found in Jānusandhigata Vāta. i.e. efficacy of Group A - Jānubasti was same as efficacy of Group B -Agnikarma on **Śoṭha** in Jānusandhigata Vāta.

Table No 52: Comparative efficacy of Jānubasti and Agnikarma on Sparṣāsahatva in Jānusandhigata Vāta :

Sparṣāsahatva	N	Mean of ranks	Sum of Ranks	Mann Whitney U test	Z value	p value
Group A - Jānubasti	50	47.5	23752675	1100	-1.1	0.248
Group B	50	53.5	2501.5			

There, was no statistically significant difference improvement on **Sparṣāsahatva**, found in Jānusandhigata Vāta. i.e. efficacy of Group A - Jānubasti was same as efficacy of Group B -Agnikarma on **Sparṣāsahatva** in Jānusandhigata Vāta .

Table No 53: Comparative Efficacy of Jānubasti and Agnikarma on Ākuncanajanya Vedanā of RT knee in Jānusandhigata Vāta:

Ākuncanajanya Vedanā of RT knee	Mean	SD	Std error mean	t value	Z value	p value
Group A - Jānubasti	122	12.61	1.78	1.63	0.766	0.204
Group B - Agnikarma	119.2	22.97	3.19			

Here, p values were >0.05 Hence there, was no statistically significant difference in improvement on **Ākuncanajanya Vedanā** in Jānusandhigata Vāta. I.e. efficacy of Group A - Jānubasti was same as efficacy of Group B –Agnikarma in JānusandhigataVāta.

Table No 54 : Comparative Efficacy of Jānubasti and Agnikarma on Ākuncanajanya Vedanā of LT knee in Jānusandhigata Vāta:

Ākuncanajanya Vedanā of LT knee	mean	SD	Std error mean	t value	Z value	p value
Group A - Jānubasti	122.4	12.86	1.81	0.98	1.46	0.325
Group B - Agnikarma	117.2	21.47	3.03			

Here, p values were >0.05 Hence There, was no statistically significant difference in improvement on **Ākuncanajanya Vedanā** in JānusandhigataVāta. i.e. efficacy of Group A - Jānubasti was same as efficacy of Group B -Agnikarmain JānusandhigataVāta.

Table No 55: Comparative Efficacy of Jānubasti and Agnikarma on Prasaranjanya Vedanā of RT knee Jānusandhigata Vāta .

Prasāranjanya Vedanā of LT Knee	Mean	SD	Std error mean	t value	Z value	p value
Group A - Jānubasti	59	16.3	6.56	0.272	-0.362	0.603
Group B	62.4	47.5	6.72			

Here, p values were >0.05 Hence There, was no statistically significant difference in improvement on **Prasāraṅjanya Vedanā** in JānusandhigataVāta. I.e. efficacy of Group A - Jānubasti was same as efficacy of Group B -Agnikarmain JānusandhigataVāta.

Table No 56: Comparative Efficacy of Group A - Jānubasti and Group B – Agnikarma on Prasāraṅjanya Vedanā LT knee:

Prasāraṅjanya Vedanā of LT Knee	Mean	SD	Std error mean	t value	Z value	p value
Group A - Jānubasti	61.2	47.5	6.72	2.94	0.846	0.089
Group B – Agnikarma	53.6	42.1	5.95			

Here, p values were > 0.05 Hence There, was no statistically significant difference in improvement on **Prasāraṅjanya Vedanā** in Jānusandhigat Vāta. i.e. efficacy of Group A - Jānubasti was same as efficacy of Group B -Agnikarmain Jānusandhigata Vāta.

Table No 57: Comparative Efficacy of Group A - Jānubasti and Group B – Agnikarma on Sandhisputana in Jānusandhigata Vāta :

Sandhisputana	mean	SD	Std. error mean	F	t value	p value
Group A – Jānubasti	29.38	11.96	1.69	1.36	3.43	0.246
Group B	21.24	11.76	1.66			

Here, p values were >0.05 Hence There, was no statistically significant difference in improvement on Sandhisputana in JānusandhigataVāta. i.e. Efficacy of Group A - Jānubasti was same as Efficacy of Group B -Agnikarmain Jānusandhigata Vāta.

Table No 58: Comparative Efficacy of Jānubasti and Agnikarma on Sakaṣṭacalan in Jānusandhigat Vāta:

Sakaṣṭacalan – in second	Mean	SD	Std error mean	F	t value	p value
Group A - Jānubasti	15.2	6.14	0.86	0.598	-1.65	0.441
Group B	17.6	8.22	1.16			

Here, p values were >0.05 Hence There, was no statistically significant difference in improvement on **Sakaṣṭacalan** in JānusandhigataVāta. i.e. Efficacy of Group A - Jānubasti was same as Efficacy of Group B -Agnikarmain Jānusandhigata Vāta.

Treatment and Results:

The clinical study was done on 100 patients (50 in each Group) coming under inclusive criteria. Sahacara Taila Jānubasti (200ml) for 7days daily in Group A - Jānubasti & Agnikarma with Tāmraśalākā on maximum tenderness on anterior part of Knee joint continuous for 7 days in Group B –Agnikarma were given. In Group A - Jānubasti Sahachara Taila Jānu basti was administered for 7 days and no any complication were observed during treatment, marked improvement was seen after 7 days of treatment. There was no relapse of symptoms till second follow up. By using Wilcoxon Sign Rank Test the p value is <0.0001 , indicating highly significance of Sahachara Taila Jānu basti in Śūla (Pain), Śoṭha, Sparśāsahatva. By using paired t test Extension and flexion (of both knee joint), Sandhisputan and Sakaṣatacalan were highly significant p value 0.0001 .

Agnikarma was found highly effective in Śūla , Śoṭha and Sparśāsahatva. By using Wilcoxon Sign Rank Test the p value is <0.0001 , indicating highly significance of

Agnikarma. By using paired t test Extension and flexion (of both knee joint), Sandhisputan and Sakaṣatacalan were highly significant p value <0.0001 .

A Comparative Study of Jānubasti and Agnikarma In Jānusandhigata Vāta:

The data collected from both group were analyzed with **Mann Whitney U test** to know the relation between the groups .The result were not significant in any of the parameters with $p>0.05$.

Hence, Null hypothesis is accepted

i.e. Efficacy of Jānubasti with Sahacar Taila = Efficacy of Agnikarma with Tāmraśalākā
Jānubasti can be equally performed to that of Agnikarma in relieving the signs and symptoms of Jānusandhigata Vāta.