

**CLINICAL STUDY ON *KATIGRAHA* WSRT LUMBAR SPONDYLOSIS  
AND ITS MANAGEMENT BY *ERANDMULA GHANAVATI*,  
*PANCHATITKTA KSHIRABASTI* AND *KATIBASTI***

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**ABSTRACT**

**Introduction:** Spondylosis is a term, indicating degenerative changes, of the joints between the center of vertebrae and neural foramina. When the space between two adjacent vertebrae narrows, compression of a nerve root emerging from the spinal cord, may result in radiculopathy. It can be termed as lumber spondylosis if a vertebra of lumber region gets affected. This condition resembles with *Katigrah* in Ayurved. *Katishula*, *Aakunchan Prasarana Shula*, *Pidanasahatva* etc are prominent symptoms associated with *Katigrah*. *Shodhan*, *Shaman* and *Sthanik Chikitsa* in the form of *Tarpan* had been depicted in *Vatavyadhi* by *Charak*. A Case series recorded and was treated in our institute. Result obtained are encouraging and assessed at different

criteria which are presented in full paper as below.

**KEYWORDS:** *Katigrah*, *Tarpan*, *Panchatikta Kshirbasti*, *Katibasti*, *Erandmula Ghanvati*.

**INTRODUCTION**

Ayurved, ancient time less, gives you the mean of attuning and maintaining optimal health. Ayurved is the traditional science of healing modality and a science of life. In accordance with the definition, Ayurvedic medicine view health as much more than the absence of disease. The vies seers and sages of the time, intuitively understanding the physiology and working of the mind, body and spirit long before the advance of modern medicine, explained the basic principle of Ayurved.

Kimberly Middleton and David Fish (2009).<sup>[1]</sup> stated that low back pain affects approximately 60-85% patients of adult during some point of their lives. Fortunately, for the large majority of individuals, symptoms are mild and transient, 90% subsiding within 6 weeks. Chronic low back pain, defines as pain symptoms persisting beyond 3 months, affect and estimated in 15-45% of population.

Lumbar spondylosis can be described as all degenerative conditions affecting the discs, vertebral bodies and associated joints of the lumbar vertebrae.<sup>[2]</sup>

Spondylitis is a condition where there is an inflammation of lumbar spine popularly called as backache. There is not only inflammation of vertebrae but also some amount of fusing, which is painful. Stiffness is also there. Spondylolisthesis is the anterior slippage of the vertebral body, pedicles and superior articular facets, leaving the posterior elements behinds. Spondylolisthesis can be associated with spondylolysis, congenital anomalies, degenerative spine disease or other causes of mechanical weakness of the pars.<sup>[3]</sup> Retro-listhiasis is a posterior displacement of one vertebral body with respect to the subjacent vertebra to a degree less than a luxation.(dislocation).<sup>[4]</sup>

In an attempt pacify these symptoms, the treatment of low back due to lumbar spondylosis, according to modern medicine moves around calcium supplementation, anti-inflammatory analgesic drugs, antioibotics and sometimes supplementation with injection of local anesthetics or intra-articular steroids. There is limitation to advice these drugs for prolonged period as these drugs causes gastritis, if continued for more prolonged period bone marrow depression and renal failure. All these leads to the declination of the economical status of the patients. People are looking to Ayurveda with ray of hope for relief. Research scholars had evaluated some remedies on Ayurvedic concepts of management.

As already discussed, this low back pain could be correlated with *Katigraha* in Ayurvedic language. Particularly while relating lumbar spondylosis, the main significant cause of *Katigraha* is derangement in *Asthi Dhatu*.

Looking through Ayurvedic point of view, Charak has expressed that disease cause due to involvement of *Asthi Dhatu* should be treated with *Panchakarma* therapy.<sup>[5]</sup> He particularly emphasized on the use of *Kshira basti* processed by drugs having *Tikta Rasa*. So that ayurvedic line of management play an important role in pain management of *Katigraha*.

**Aim**

A Clinical Study on the Management of *Katigrah* with Special Reference to Lumbar Spondylosis by *Erandmula Ghanavati*, *Panchatikta Kshira Basti* and *Kati Basti* is undertaken to evaluate the effect of therapy in *Katigrah* with special reference to Lumbar Spondylosis and to compare its effect with *Erandamula Ghanavati* and *Panchatikta Kshira Basti*.

**Objective**

1. Evaluate the effect of *Erandamula Ghanavati*, *Panchatikta Kshira Basti* along with *Kati Basti* particularly on the Roland and Morris index, low back pain and disability questionnaire and clinical features of *Katigrah* with special reference to Lumbar Spondylosis.
2. To compare the effect of *Erandamula Ghanavati*, *Panchatikta Kshira Basti* along with *Kati Basti* with *Erandamula Ghanavati* and *Panchatikta Kshira Basti*.

**MATERIALS AND METHODS**

**Centre of Study:** OPD and IPD of the hospital attached to the institute.

**Study Design:** Randomized control Trial.

**Sample size: 80 Criteria of Diagnosis**

The patients were diagnosed on the basis

1. **Clinical features of *Katigraha*.** Signs and symptoms of lumbar spondylosis were considered.
2. **The Roland and Morris low back pain<sup>[6]</sup>** and disability questionnaire was taken in to account. Score more than 5 was considered.
3. **Radiological changes**, i.e. degenerative changes in lumbar spine were the main criteria.

**Signs and Symptoms**

- 1) *Katishula* (Lumbar pain)
- 2) *Akunchan Prasarayoh Shula* (Pain on flexion and extension)
- 3) *Graha* (Stiffness)
- 4) *Pidanasahatva* (Tenderness)
- 5) *Shulasyakala* (Duration of pain)
- 6) *Anidra*

**Laboratory Investigation**

- 1) Haemoglobin grams%, white blood cells count, differential leukocyte count, erythrocyte sedimentation rate, blood sugar fasting and post lunch was carried out to in the laboratory of attached hospital of institute, rule out other pathology. Proper instruments were used to evaluate their values.
- 2) Urine: Routine and microscopic. Any infection related to urine was ruled out.

**Radiological Investigation**

- 1) X-ray Lumbar spine antero-posterior and lateral view was done before treatment for diagnostic purpose.

**Inclusion criteria**

1. The Roland-Morris low back pain and disability questionnaire; if RDQ score >5.
2. Radiological changes, degenerative changes in Lumbar spine.
3. Patients having sign and symptoms of *Katigraha* according to classics.
4. Patient willing and able to participate in the study.
5. Chronic low back pain more than three month

**Criteria of Exclusion**

- 1) History of any fracture of vertebral joint/ surgical/ diagnostic intervention with reference to affected joints was excluded.
- 2) Gross disability in performing daily normal routine i.e. bedridden patients or confined to a wheelchair were excluded.
- 3) Patient with co morbidities such as gouty arthritis, rheumatoid arthritis or psoriatic arthritis, tubercular arthritis.
- 4) Patient with any deformity of hip or back altering the gait and posture of the patient, ankylosing spondylitis, spinal inflammatory disorders.
- 5) Patient with uncontrolled hypertension ( $\geq 160/100$  mm of Hg) and uncontrolled diabetes (Blood sugar level fasting  $>125$  mg/dl and post lunch  $>200$  mg/dl) was ruled out.
- 6) Patient with evidence of malignancy.
- 7) Patient on prolonged ( $\geq 6$  weeks) medication with corticosteroids, non-steroidal anti-inflammatory drug, antidepressants, anti-cholinergic etc. or any drugs that may influence on the outcome of the study.
- 8) Patient who have a past history of any other systemic disorders was excluded.
- 9) Pregnant / lactating women.

10) Patients who had participated in any other clinical trial since last six months.

### Criteria for Assessment

The signs and symptoms were assessed by adopting suitable method. For that symptoms mentioned in texts was considered as Clinical Assessment.

### Clinical Assessment

1. The Roland- Morris low back pain and disability questionnaire.
2. Symptoms of *Katigrah*.

#### 1) The Roland- Morris low back pain and disability questionnaire

- I stay at home most of the time because of my back.
- I change my position frequently to try to get my back comfortable.
- I walk more slowly than usual because of my back.
- Because of my back, I am not doing any jobs that I usually do around the house.
- Because of my back, I use a handrail to get upstairs.
- Because of my back, I lie down to rest more often.
- Because of my back, I have to hold on to something to get out of an easy chair.
- Because of my back, I try to get other people to do things for me.
- I get dressed more, slowly than usual because of my back.
- I only stand up for short periods of time because of my back.
- Because of my back, I try not to bend or knee down.
- I find it difficult to get out of a chair because of my back.
- My back is painful almost all of the time.
- I find it to turn over in bed because of my back.
- My appetite is not very good because of my back.
- I can only walk short distance because of my back pain.
- I have trouble putting on sock (or stocking) because of the pain in my back.
- I sleep less well because of my back.
- because of my back pain, I get dressed with the help of someone else.
- I sit down for most of the day because of my back.
- I avoid heavy jobs around the house because of my back.
- Because of my back pain, I am more irritable and bad tempered with people than usual.
- Because of my back, I go upstairs more slowly than usual.
- I stay in bed most of the time because of my back.

Score: \_\_\_\_\_

1. Symptom score of *Katigrah*Table-1: Table Showing Scores of Symptoms of *Katigraha*.

Pramukha Vedana	Gradation	Marks
1. Katishula (Lumbar pain)	No pain	0
	Mild pain	1
	Moderate pain but no difficulty in walking	2
	Slight difficulty in walking due to pain	3
	Much difficulty in walking	4
	Much pain which prevents pain	5
2. Akunchan Prasaranyoh Shula (Pain on extension and flexion)	No pain	0
	Pain without wincing of face	1
	Pain with wincing of face	2
3. Graha (Stiffness)	No stiffness	0
	Mild stiffness	1
	Moderate stiffness	2
	Much difficulty due to stiffness	3
	Severe stiffness (more than 10 min)	4
4. Pidanasahtva (Tenderness)	No tenderness	0
	Patient says tenderness	1
	Wincing of face	2
	Wincing of face withdrawal the hand	3
	Not allowing to touch joints	4
5. Shulasya Kala (Duration of pain)	No pain	0
	Only in morning(4-10am) Evening (5 -11pm)	1
6. Anidra	Samyaka Nidra	0
	Mild Anidra	1
	Moderate Anidra	2
	Severe Anidra	3

Table-2: Table Showing Groups of Management.

Groups of Management	Treatment given	Duration	Dose	Anupan	Bheshaja Sevankala
Trial Group	1. Erandamula Ghanavati	30 days	500mg	Ushnodak	Apan Kala
	2. Panchatikta Kshira Basti (Panchatikta Kshira Panchatikta Ghrita Madhu Saindhav Shatpushpa Churna)	15 days	240ml 200ml 30ml 5gm 5gm 2gm		Paschat Bhakta (11 to 11:30am)
	3. Kati Basti	15 days	20 min		Morning hour 9-10 am
Control Group	1. Erandamula Ghanavati	30 days	500mg	Ushnodak	Apan Kala
	2. Panchatikta Kshira Basti (Panchatikta Kshira Panchatikta Ghrita Madhu Saindhav Shatpushpa Churna)	15 days	240ml 200ml 30ml 5gm 5gm 2gm		Paschat Bhakta (11 to 11:30am)

## OBSERVATION AND RESULTS

Table-3: Table Showing Effect of therapy on Symptom Score of 70 Patients of *Katigraha* with Special Reference to Lumbar Spondylosis.

SN	Parameter	Trial Group		Control Group		Difference of score		Relief Percentage%	
		B.T	A.T	B.T	A.T	T.G	C.G	T.G	C.G
1	<i>Katishula</i>	153	43	151	48	110	103	71.89	68.21
2	<i>Akunchan Prasarayoh Shula</i>	110	31	110	35	79	75	71.81	68.18
3	<i>Graha</i>	104	24	95	28	80	67	76.92	70.52
4	<i>Pidanasahva</i>	92	26	95	37	66	59	71.73	62.10
5	<i>Shulasya Kala</i>	81	20	81	20	61	61	75.30	75.30
6	<i>Anidra</i>	69	13	60	12	56	48	81.15	80.00
7	Roland- Morris low back pain & disability questionnaire	570	168	613	211	402	402	70.52	65.58

**Table-4: Table Showing Effect of Therapy on The Symptom Score of 70 Patients of Katigraha by Wilcoxon Signed Rank Test.**

S.N.	Symptoms	Groups	Mean±SD			Median		W	T+	T-	SD	Z	P
			BT±SD	AT±SD	Mean Diff±SD	BT	AT						
1	Katishula	T.G	4.4±0.77	1.2±0.81	3.1±0.7	5	1	630	630	0	61.05	5.16	<0.0001
		C.G	4.3±0.9	1.4±0.7	2.9±0.7	5	1	630	630	0	61.05	5.16	<0.0001
2	Akunchan Prasaranyoh Shula	T.G	3.1±0.7	0.9±0.7	2.3±0.6	3	1	630	630	0	61.05	5.16	<0.0001
		C.G	3.1±0.7	1.0±0.6	2.1±0.7	3	1	630	630	0	61.05	5.16	<0.0001
3	Graha	T.G	2.97±0.7	0.69±0.6	2.3±0.7	3	1	630	630	0	61.05	5.16	<0.0001
		C.G	2.7±0.9	0.8±0.7	1.9±0.6	3	1	630	630	0	61.05	5.16	<0.0001
4	Pidanasahatva	T.G	2.6±0.8	0.7±0.7	1.9±0.6	3	1	630	630	0	61.05	5.16	<0.0001
		C.G	2.7±0.9	1.1±0.7	1.7±0.6	3	1	630	630	0	61.05	5.16	<0.0001
5	Shulasya Kala	T.G	2.3±0.8	0.6±0.6	1.7±0.7	3	1	630	630	0	61.05	5.16	<0.0001
		C.G	2.3±0.8	0.6±0.6	1.7±0.6	3	1	630	630	0	61.05	5.16	<0.0001
6	Anidra	T.G	1.97±0.8	0.37±0.5	1.6±0.7	2	0	595	595	0	61.05	4.59	<0.0001
		C.G	1.7±0.8	0.34±0.5	1.4±0.55	2	0	630	630	0	61.05	5.16	<0.0001
7	Roland-Morris low back pain and disability questionnaire	T.G	16.3±2.7	±2.4	5±2.6	16	4	630	630	0	61.05	5.16	<0.0001
		C.G	17.5±3.3	6.03±3.7	11.5±2.9	18	5	630	630	0	61.05	5.16	<0.0001

**Table-5: Table Showing Comparison between Two Groups of Katigraha with respect to Symptoms Score by Mann-Whitney Test.**

S N	Symptoms	Mean diff.±SD in TG	Mean diff.±SD in CG	T1 (Sum of ranks in TG)	T2 (Sum of ranks in CG)	U'	U-Stat	Z	P>
1	Katishula	3.14±0.7	2.9±0.7	1336.5	1148.5	706.5	518.5	1.098	0.2662
2	Akunchan Prasaranyoh Shula	2.25±0.6	2.14±0.648	1297.5	1187.5	667.50	557.50	0.64	0.5157
3	Graha	<b>2.3±0.7</b>	<b>1.9±0.6</b>	<b>1413</b>	<b>1072</b>	<b>783</b>	<b>442</b>	<b>1.997</b>	<b>0.0427</b>
4	Pidanasahatva	1.9±0.6	1.7±0.6	1356.5	1128.5	726.5	498.5	1.333	0.1758
5	Shulasya Kala	1.7±0.7	1.7±0.6	1233.5	1251.5	621.5	603.5	0.099	0.9191
6	Anidra	1.6±0.7	1.4±0.55	1362.2	1123.0	732	493	1.398	0.1555
7	Roland-Morris low back pain and disability questionnaire	11.5±2.6	11.5±2.9	1216.5	1268.5	638.5	586.5	0.299	0.7643



Table-6: Wilcoxon Signed Rank Test on Score of *Dosha* of 70 Patients of *Katigraha*.

S N	Symptoms	Groups	Mean $\pm$ SD			Median		W	T+	T-	SD	Z	P
			BT $\pm$ SD	AT $\pm$ SD	Mean Diff $\pm$ SD	B T	A T						
1	<i>Vata</i>	TG	4.8 $\pm$ 1.8	1.1 $\pm$ 1.3	3.7 $\pm$ 1.4	5	1	630	630	0	61.05	5.16	<0.0001
		CG	4.6 $\pm$ 1.7	0.89 $\pm$ 1.3	3.7 $\pm$ 1.6	4	1	630	630	0	61.05	5.16	<0.0001
2	<i>Pitta</i>	TG	0.26 $\pm$ 0.7	0.1 $\pm$ 0.34	0.2 $\pm$ 0.6	0	0	15	15	0	61.05	-4.91	0.0625
		CG	0.54 $\pm$ 1.2	0.1 $\pm$ 0.3	0.5 $\pm$ 1.1	0	0	28	28	0	61.05	-4.70	0.0156
3	<i>Kapha</i>	TG	0.5 $\pm$ 0.9	0.1 $\pm$ 0.3	0.5 $\pm$ 0.8	0	0	66	66	0	61.05	-4.08	0.001
		CG	0.6 $\pm$ 1.03	0.03 $\pm$ 0.2	0.6 $\pm$ 1.01	0	0	78	78	0	61.05	-3.88	0.0005

Table-7: Table Showing Overall Assessment on Total 80 Patients of *Katigraha*.

SN	Overall Assessment	Trial Group		Control Group		Total Number of patients	Percentage %
		No. of Patients	Percentage %	No. of Patients	Percentage %		
1	Complete remission	00	00	00	00	00	00
2	Marked Improvement	05	12.5	03	7.5	08	10
3	Moderate Improvement	27	67.5	30	75	57	71.25
3	Mild Improvement	03	7.5	02	5	05	6.25
4	Unchanged	00	00	00	00	00	00
5	LAMA	05	12.5	05	12.5	10	12.5

## DISCUSSION

### I) Effect of Therapy on General Symptom Score by Wilcoxon Signed Rank Test

To evaluate the effort of therapy on symptoms of *Katigraha* of 70 patient of this study, all the symptoms were graded before and after treatment as per the criteria of assessment. Non parametric test Such as Wilcoxon's Ranked sign test were used to evaluate the effect on symptoms score (Table-4). *Katishula*, *Akunchan Prasarnyaoh Shula*, *Graha*, *Pidanasahtva* and *Anidra* are the main symptoms of *Katigraha*. The drug had reduced the status of these symptom score, which was decided by percentages of relief (Table-3), shown by drug in both group. Symptom score of the patients were assessed statistically by Wilcoxon signed rank test. The symptom score, for said symptoms, reduced in both groups, extremely significantly.

*Erandamula Ghanavati* is having *Madhur Rasa*, *Snigdha*, *Tikshna*, *Sukshma*, *Guna*, *Ushna Virya* and action on *Vata* and *Kapha*. *Charak* has stated that *Erandamula* is responsible to increase virility and alleviates *Vata*. *Panchatikta Kshirabasti* is having *Madhur Rasa*, *Tikta Rasa*, *Guru Guna*, *Shita Guna*, *Madhur Vipaka* and action on *Vata-Pitta*. Therapeutic action of *Panchatikta Kshirabasti* and *Erandamula Ghanavati* is responsible to alleviate increased

status of *Vayu* so that there is reduction in the symptom score significantly in both groups.

### **Effect on Rolland and Morris low back pain and disability questionnaire**

Mean symptom score of Rolland and Morris low back pain and disability questionnaire before starting the treatment in Trial group was  $16.3 \pm 2.7$  which reduced by  $11.5 \pm 2.6$ . This reduction was tested statistically by Wilcoxon Signed Rank test; Z was 5.16,  $P < 0.0001$ , which was extremely significant. The symptom score in Control Group also reduced extremely significant. It might be because of therapeutic action of *Erandamula Ghanavati*, *Panchatikta Kshirabasti* and *Kati Basti* in combination in the Trial Group. *Erandamula* is one of the best drugs to alleviate *Vayu*, consequence reduction in pain. The drug in *Panchatikta Kshirabasti* might be responsible to enhance the metabolism of *Meda Dhatu* by action of *Tikta Rasa* in *Panchatikta*. As described by earlier *Ruksha*, *Khara*, *Parusha* properties of *Tikta Rasa* played their role to produce *Asthi Dhatu* from *Meda*. Further it might nourish *Asthi Dhatu*. *Sneha* and *Ushna* properties of *Katibasti* might have reduced symptoms score of *Pidanashatva*. So that *Graha* in the joints of *Katikasheruka* might have reduced, *Sneha* might have augmented subluxation of joints of *Katikasheruka* enhancing the beneficial effect on symptom score of *Akunchan Prasaranayoh Shula* reduction in *Katishula*, *Pidanashatva*, *Graha*, *Akunchan Prasaranayoh Shula* and Rolland and Morris low back pain and disability questionnaire might have beneficial effect of *Nidra*.

As per modern science lumbar spondylosis is the disease of lumbar vertebra made of bones. Two adjacent vertebra forms the intervertebral joint. Charak has stated that the *Sandhi* is included in *Madhyam Rogamarga*. Joints of two bones along with *Snayu* and *Kandara* covering the bones and joint is included in it.<sup>[7]</sup> All types of *Sandhi* are included in *Sandhi Marma*. As per classification of Sushruta *Katik Taruna* (can be considered as intervertebral disc) is described under the heading of *Prishtha Marma*.<sup>[8]</sup> Sushruta included *Katik Tarun* in *Asthi Marma*. All *Marma* are classified with respect to the effect of trauma on it. *Katik Tarun* has been classified under the heading of *Kalantar Pranhar Marma*. Charak has cautioned to protect the all types of *Marma*. Charak advised administration of *Basti* to protect *Marma*.<sup>[9]</sup> Lumbar spondylosis as described earlier in a disease of bone in which there is a degenerative process sometimes intervertebral joints also involved. In this context it can be contemplated that *Kati Kasheruka* made up of *Asthi Dhatu* are involved. By implication *Panchatikta Kshira basti* not only is the choice of treatment in lumbar spondylosis, but protection of *Marma* (*Asthi and Sandhi Marma*) is achieved with the help of *Basti*. Data

described in fore said para *Panchatikta Kshirabasti* combined with *Erandamula Ghanavati* with and without *Kati Basti* might was helpful to increase the health status of all the patients.

### Comparison between two groups

Table-5 stated that therapy in both groups reduced the symptoms score extremely significant, therefore further comparison was statistically analysed to decide the best treatment protocol in the respective groups. Symptom score of *Graha* in Trial Group was significantly different. *Katibasti* in Trial Group might have local action so that *Graha* of particular region on which *Katibasti* was carried out reduced significantly. *Katibasti* is a type of *Sneha Sveda*, also termed as *Tarpan*. *Sneha Sveda* in the form of *Tarpan* might have alleviated locally vitiation of *Vayu* reducing status of *Graha*.

However main objective of this study was to evaluate the effect of therapy on Rolland and Morris low back pain and disability questionnaire. The score of this parameter in both group when compared and analysed, was found to be insignificant because Mann Whitney Z was 0.299,  $P > 0.7643$ . *Graha* is the one of the symptom manifested because of vitiation of *Vayu*. In this context, vitiation of *Vayu* manifesting *Graha* might be functional derangement. The treatment protocol in Trial Group comprising *Erandamula Ghanavati*, *Panchatikta Kshira Basti* along with *Kati Basti* was responsible to reduce score of *Graha*, a one of the symptom of the vitiation of *Vayu*. While Rolland and Morris low back pain and disability questionnaire is related to forward bending. There is restriction on forward bending. Pain is aggravated on forward bending in *Katigraha*. *Saushiryata* in *Asthi*, as another important symptom of vitiation of *Vayu*, diagnosed by means of osteoporotic and sclerotic changes, is responsible for painful forward bending, also termed as *Akunchana Prasaranyoh Shula*. *Asthi Saushiryata* being structural derangement might require more duration of treatment. Therefore the treatment protocol in both group highlighted about same reduction in symptom score of Rolland and Morris low back pain and disability questionnaire. There was insignificant difference in both groups.(Table-5)

However considering the favourable significant result with respect to score of *Graha* by the treatment protocol of Trial Group along with more insignificant reduction score of *Katishula*, *Pidasahatva*, *Akunchana Prasaranyoh Shula*, *Shulasya Kala*, *Anidra* and Rolland and Morris low back pain and disability questionnaire, it can be contended that treatment protocol in Trial Group was better than control Group.

**Effect on Dosha Vridhhi Lakshana Score**

Table-6 highlighted the effect of therapy on *Dosha Vridhhi Lakshana* Score. Symptoms score of *Vata Vridhhi* in both group reduced extremely significant. *Basti* being the first choice of treatment in the *Vata Vyadhi* alleviated the increased symptom score of *Vata Vridhhi* in both groups. It might be because of properties of drugs described in drug under trial. It clearly bestowed that therapy in both group have property of alleviating *Vata*.

**Total effect of therapy**

12.5% patients in Trial Group were improved markedly while in Control Group only 7.5% patients in Trial Group were improved markedly. To compare the total effect of therapy in both groups, Chi squared test was carried out. Chi was 1.036,  $P > 0.5956$ . The insignificant Chi squared test highlighted the same effect of treatment protocol in respective groups. It might be possible that added effect of *Katibasti* in Trial Group was restricted to local area, so that significant relief was observed only in symptoms of *Graha*. However *Katibasti* in Trial Group did not changed overall total effect. Effect of *Katibasti* might be on functional changes such as *Graha*. The structural changes such as *Asthi Saushiryata* did not respond to it. Some of the drug which has effect on *Asthi Saushiryata* must be added to augment the effect of *Erandmula Ghanavati* along with *Panchatikta Kshirabasti* and *Katibasti* did not augment the effect. The drug such as *Asthisrinkhala* (*Cissus quadrangularis*) must be added to see the augmented effect of *Erandmula Ghanavati* along with *Panchatikta Kshirabasti*.

**CONCLUSION**

Symptom score of *Graha* significantly decreased in both groups but there was more significant result by treatment protocol in trial group. Symptom score of *Katishula*, *Pidasahatva*, *Akunchan Prasaranyoh Shula*, *Shulasya Kala*, *Anidra* and *Rolland and Morri's* low back pain and disability questionnaire had more reduction in symptom score, which were insignificant.

The drugs in both the therapy had the insignificant difference that implied that both the drugs had same effect of therapy on *Rolland and Morris* disability questionnaire.

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