


Research Article
UPASHAYATMAKA EFFECT OF SHUNTHI CHURNA UDVARTANA IN KATISHULA
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ABSTRACT

Katishula (Low back pain) is enumerated under '*Vatajananatmajavikara*'. References on *Katishula* are found scattered in *Samhitas*. To arrive at specific diagnosis of a disease, manifestation of specific symptoms are very essential. But when such symptoms are not completely manifested or the symptoms appear in the feeble strength or do not appear at all, method of trial and error intervention becomes helpful to arrive at correct diagnosis. This is achieved through *Upashaya*, that which gives *Sukhanubandha*. Hence present study was planned and undertaken to explore the role of *Shunthi churna udvartana* as *Upashaya* of *Katishula* against *Gunas* of *Vata*. *Vata* is attributed with *Gunas* like *Ruksha*, *Laghu*, *Sheetha*, *Khara*, *Sukshma* and *Chala*. *Shunthi churna* possesses *Ushnaguna* and is ascribed with *Shoolaprashamana* property. In the present study 30 patients of *Katishula* underwent intervention with *Shunthi churna udvartana* in *Katipradesha* twice daily in empty stomach, in the morning and evening for 3 days and were observed for relief in *Katishula* after the intervention. Significant relief in *Katishula* (Pain in *Kati pradesha*) was noted. On subjecting the result to Statistical analysis, mean score obtained in 30 patients before intervention with *Shunthi churna udvartana* was 7.26, which reduced to 2.96 after intervention. The mean difference is 4.3. Further on application of paired student t test p-value was <0.001, which is statistically highly significant. Hence it is evident that *Shunthi churna udvartana* has a definite role in relieving *Katishula*, specifically pain by its *Ushnaguna* and *Shula prashamana* property against *Sheethaguna* of *Vata* causing *Katishula*.

KEYWORDS: *Katishula*, *Shunthi churna udvartana*, *Upashaya*.

INTRODUCTION

In the present era *Katishula* (Low back pain) is a very common global health problem and a major cause of disability affecting performance at work and general well-being. *Katishula* is a very frequent reason for medical consultations and affects people of all ages, from children to the elderly.

Katishula (Low back pain) is enumerated under '*Vatajananatmajavikara*'.^[1] *Katishula* is considered both as a symptom as well as a disease by various *Acharyas* and scattered references are available in *Ayurveda* literature. *Roga-pareeksha* and *Rogi-pareeksha* are the pivotal in achieving diagnosis of a disease. To arrive at specific diagnosis of a disease, manifestation of specific symptoms are very essential. But sometimes such symptoms are not completely manifested or the symptoms appear in the feeble strength or do not appear at all. Therefore in such situations method of trial and error intervention becomes helpful to arrive at correct diagnosis. This is achieved through *Upashayatmakaadhyayana*.^[2]

Hence present study was undertaken to explore the role of *Shuntichurna* as *Upashaya* in *Katishula* against *Sheeta guna* of *Vata*. *Vata* is attributed with *Gunas* like *Ruksha*, *Laghu*, *Sheetha*, *Khara*, *Sukshma*

and *Chala*.^[3] *Shunthi churna* possesses *Ushnaguna* and is *Shoolaprashamana*.^[4]

By assessing and diagnosing the *Guna* of *Vatadosha* involved in pathogenesis of *Katishula*, exact line of management and line of treatment can be decided paving way for accurate drug selection. Thereby achieve success in treatment.

AIMS AND OBJECTIVES

To assess *Upashayatmaka* effect of *Shunthi churna udvartana* in *Katishula* (Low back pain).

MATERIALS AND METHODS
Source of Data

30 Patients from OPD and IPD of SDM College of *Ayurveda* and Hospital, Hassan were included.

Diagnostic Criteria
Subjective criteria

1. *Shula* (Pain) in the *Kati pradesha*
2. with or without radiation to lower limbs.
3. with or without restriction of movements in lower limbs.

Objective criteria

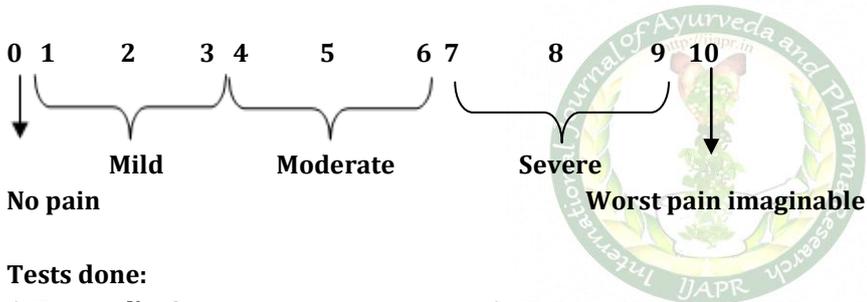
Table 1: Assessment criteria before intervention

Assessment Criteria	0	+(mild)	++(moderate)	+++ (severe)	++++ (uncontrollable)	Normal Range
Pain	-	-	-	-	-	
Flexion	-	-	-	-	-	Ground
Extension	-	-	-	-	-	20 degree
Left lateral movement	-	-	-	-	-	40 degree
Right lateral movement	-	-	-	-	-	40 degree
Difficulty to sit in squatting position	-	-	-	-	-	NO
Difficulty to get up from squatting position	-	-	-	-	-	NO

Table 2: Assessment criteria after intervention

Assessment Criteria	0	+(mild)	++ (moderate)	+++ (severe)	++++ (uncontrollable)	Normal Range
Pain	-	-	-	-	-	
Flexion	-	-	-	-	-	Ground
Extension	-	-	-	-	-	20 degree
Left lateral movement	-	-	-	-	-	40 degree
Right lateral movement	-	-	-	-	-	40 degree
Difficulty to sit in squatting position	-	-	-	-	-	NO
Difficulty to get up from squatting position	-	-	-	-	-	NO

Visual Analogue Scale (VAS):



Tests done:

- 1. Bragard's sign
 - 0- Negative
 - 1- Positive
- 2. SLR Test
 - 0- Negative
 - 1- 0 - 15
 - 2- 16 - 30
 - 3- 31- 45
 - 4- 46 - 60
 - 5- 61-75
 - 6- 76 - 90

Inclusion Criteria: Patients of either gender of age group between 16-70 years fulfilling diagnostic criteria.

Exclusion Criteria: Congenital abnormalities like spina bifida, mechanical derangements like spondylolisthesis, spinal canal stenosis. Tumours in relation to spinal column, cord or nerve roots and other malignant tumours of the trunk. Infectious conditions like Tuberculosis of spine. Extra-spinal causes of low back pain caused due to systemic disorders like renal calculi, gynaecological disorders, pelvic disorders. Pregnant woman and trauma.

Study Design: This is an Observational clinical study.

Intervention: Included *Katishula* patients were subjected to following procedure:

Shunti churna udvartana using 50 gms in *Kati pradesha* for 20 minutes in morning empty stomach between 9.00 am to

10.00 am. The same procedure is repeated in same patient for second time on the same day between 3.00 pm - 4.00 pm. This sequence was continued for 3 consecutive days. Various assessment parameters to assess *Upashayatmaka* effect was assessed before intervention and at the end of 3rd day and result is furnished as below.

Observation and Results: A specially designed Case Performa was used for assessing the aggravation and alleviation of *Shula* in the patient before and after *Shunthi churna udvartana* to assess *Upashayatmaka* effect.

Among 30 patients who fulfilled the criteria, 24 (80%) were male patients and 06 (20%) were female patients; 19 patients (63.3%) belong to the age group between 31-50yrs; 26 patients (86.7%) were married. Out of 30 patients, 13 (43.3%) male patients belonged to occupation

agriculture and 05 (16.7%) female patients were home makers.

Table 3: Distribution based on the gender

Gender	No. Of patients	Percentage
Male	24	80
Female	6	20
Total	30	100

Table 4: Distribution based on age

Age group	No. of patients	Percentage
16-30yrs	5	16.7
31-50yrs	19	63.3
51-70yrs	6	20
Total	30	100

Table 5: Distribution based on Marital Status

Marital status	No. of patients	Percentage
Unmarried	4	13.3
Married	26	86.7
Total	30	100

Table 6: Distribution based on occupation

Occupation	No. of patients	Percentage
Agriculture	13	43.3
Driver	1	3.3
Shop keeper, canteen worker, conductor, teacher	5	16.7
Businessman, Engineer, Doctor	1	3.3
Homemaker	5	16.7
Student	1	3.3
Others	4	13.3
Total	30	100

Table 7: Following tests Straight leg raising test, Bragard's test, Difficulty to get up from squatting position, Difficulty to sit in squatting position, Range of movements were performed in *Katishula* patients included for the study. In the present study, Wilcoxon signed rank test was applied to find statistical significance. where "n" denotes number of patients, MR denotes Mean Ratio, SR denotes Standard Ratio, Z is value of Wilcoxon signed rank test, NR (Negative ranks) indicate patients relieved of pain, PR (Positive ranks) indicate pain aggravated, Ties indicate no difference in pain before to after intervention, p value < 0.01 denote statistically highly significant, if p>0.05 indicate non significant and if p value ranges between <0.05-0.01 is significant.

Tests	NR (n)	PR (n)	Ties (n)	Total (n)	MR	SR	Z value	P value	Significance
SLR	17	0	13	30	9.00	153.00	3.879	0.000	HS
Bragards	2	0	28	30	1.50	3.00	1.414	0.157	NS
Difficulty to get up from squatting position	18	0	12	30	9.50	171.00	4.243	0.000	HS
Difficulty to sit in squatting position	17	0	13	30	9.00	153.00	4.123	0.000	HS
Range of movements	22	0	08	30	11.50	253.00	4.523	0.000	HS

Table 8: Visual analogue scale (VAS) was used to grade *Katishula* in patients before and after intervention to assess *Upashayatmaka* effect. VAS has various gradations ranging from 0-10, which indicates intensity of pain in succeeding order. In the present study, paired t- test was applied to find statistical significance. where "n" denotes number of patients, VAS-BI denotes Visual Analogue Score before intervention, VAS-AF denotes Visual Analogue Score after intervention, MD denotes mean difference, SD denotes standard deviation, SEM denotes standard error mean, t denotes paired t -test value, if p value >0.05 then statistically non significant, if p value ranges between 0.05-0.01 is statistically significant and p value < 0.01 denote statistically highly significant.

N	VAS-BI	VAS-AI	MD	SD	SEM	t-value	p-value	Significance
30	7.26	2.96	4.3	0.728	0.133	4.264	0.000	HS

DISCUSSION

Katishula is a *Rujapradhana Vatajanantmaja vyadhi*⁵, intervening with the functional ability of low back and sometimes involves lower limbs. *Katishula* is a disorder dominated by pain affecting the *Katipradesha*. It

is caused by *Vatadosha*. The *Prakupitadosha* afflicts the *Kandara, Snayu, Asthi* and *Mamsa*, involving the related *Srotas*. Disease being one among eighty types of *Nanatmajavatavyadhi*, has no specific *Nidana* and

Samprapti mentioned separately. *Katishula* is characterised by *Shula* in *Katipradesha*.

30 Patients fulfilling diagnostic and inclusion criteria were included in present study. They were subjected to *Shunthi churna udvartana*. Various above presented parameters (Table 7 and 8) were taken to assess *Upashaytmaka* effect which was subjected to statistical analysis.

Assessment of Straight leg raising test (SLR) in 30 patients showed, 13 patients (43.3%) had SLR test positive between 46-60 degrees followed by 8 patients (26.7%) had SLR positive between 31-45 degrees, 4 patients (13.3%) had SLR positive between 16-30 degrees and 2 patients showed SLR positive between 61-75 degrees and 76-90 degrees respectively and 16 patients (53.3%) had SLR positive between 46-60 degrees after *Upashaya* followed by 6 patients (20%) had SLR positive between 61-75 degrees, 4 patients (13.3%) had SLR test positive between 76-90 degrees and 2 patients (6.7%) had SLR test positive between 31-45 degrees respectively. On statistical analysis by Wilcoxon signed rank test, showed reduction in *Vedana* in 17 patients and no change in 13 patients which is statistically highly significant ($Z=3.879$, $p=0.000$). Hence *Shunthichurna* has a definite role in relieving *Katishula* bestowing *Upashayatmaka* effect. *Upashaya* in *Katishula* is brought about by *Ushnaguna* and *Shulaprashamana property of Shunthichurna*, which is contrary to *Sheetaguna of Vata* responsible for *Katishula*.

Assessment of bragard's test showed positive finding in 29 patients (96.7%) before intervention and only 2 patients showed negative finding whereas other 27 patients showed no change after intervention. Wilcoxon signed rank test showed not much change in Bragards test in all 29 patients before and after intervention with $Z=1414$ and $p=0.157$ which is statistically non significant. Hence it may be inferred that *Upashaya* by *Shunthi churna udvartana* requires more days of intervention to show a definite change in bragard's test.

Assessment of difficulty to get up from squatting position due to *Katishula* was assessed based on subjective feeling as well as by calculating time duration taken to achieve erect standing position from squatting position. If patient takes less time duration to get up from squatting then it infers less difficulty and similarly if takes more time to stand up then infers more difficulty. It showed that 24 patients (80%) had difficulty to get up from squatting position before intervention and after intervention patients with difficulty to get up from squatting position reduced to 18 patients (60%). Statistical analysis by Wilcoxon signed rank test showed $Z=4.243$ and $p=0.000$ which is statistically highly significant. Hence *Shunthi churna* has a definite role in relieving *Katishula* and thereby aiding patients to get up easily from squatting position. Therefore *Ushnaguna* and *Shoolaprashamana effect of Shunthichurna* is beneficial against *Sheetaguna of Vata* in bestowing *Upashaya* in *Katishula*.

Assessment of difficulty to sit in (attain) squatting position due to *Katishula* was assessed based on subjective feeling as well as time duration taken by patient to adopt complete squatting position from standing position. If

patient takes less time duration, then it infers less difficulty and similarly if takes more time, then infers more difficulty. Present study showed that 23 patients (76.7%) had difficulty to adopt squatting position from standing position before intervention. This difficulty reduced after intervention as this was seen only in 06 patients (20%). On application of Wilcoxon signed rank test showed $Z=4.123$, $p=0.000$, which is statistically highly significant. Hence *Shunthichurna* has a definite role in relieving *Katishula* and thereby improvement is observed in relieving difficulty to attain squatting position. This *Upashaya* is due to *Ushnaguna* and *Shulaprashamanaguna of Shunthichurna* used for *Udvartana* against *Sheetaguna of Vata* responsible for causing *Katishula*.

Range of movements (ROM) was assessed using Goniometer. Range of movement was restricted in all 30 patients (100%) before intervention. After intervention 17 patients (56.7%) ROM slightly improved, followed by 08 patients (26.7%) has restricted ROM and 2 patients (6.7%) showed marked improvement in ROM respectively. Wilcoxon signed rank test showed improvement in different Range of movements from before to after intervention, which was seen in 22 patients and no change in 08 patients which is highly significant ($Z=4.523$, $p=0.000$). Hence *Shunthichurna* has a definite role in relieving *Katishula* symptoms and thereby increasing the range of movements in the patients due to its *Ushnaguna* and *Shulaprashamana property against Sheetaguna of Vata* responsible for *Katishula*.

Low back pain was assessed using Visual analogue scale (VAS). Mean score obtained in 30 patients before intervention with *Shunthi churna udvartana* was 7.26, which reduced to 2.96 after intervention. The mean difference is 4.3. Further on application of paired student t test p-value was <0.001 , which is statistically highly significant. Hence it is evident that *Shunthi churna udvartana* has a definite role in relieving *Katishula* symptoms specifically pain by its *Ushnaguna* and *Shulaprashamana property against Sheetaguna of Vata* responsible for manifestation of *Katishula*.

Katishula is one among *Vatajanatatmajavyadhi*.^[6] *Vata* is known for its attributes like *Ruksha*, *Laghu*, *Sheeta*, *Khara*, *Sukshmagunas*.^[7] When *Katishula* is caused due to *Sheetaguna of Vata*, by performing *Shunthichurna udvartana* in and around *Katipradesha*, it relieves pain in patients due to its *Ushnaguna* and *Shulaprashamana property*. *Shunthichurna* is known for its *Shulaprashamana property*.^[8] From the above findings it is clear that *Shunthi churna udvartana* acts as *Upashaya* in *Katishula* caused due to *Sheetaguna of Vata* as *Shunthichurna* possesses *Ushnaguna*.

CONCLUSION

The concept of '*Upashaya*' has been imbibed in this study to assess the involvement of *Vataguna (Sheeta)* in causation of *Katishula* against *Udvartana* with *Upashayatmaka dravya Shunthi churna* possessing *Ushna* and *Shulaprashamana properties as Upashaya* bestows *Sukhanubandha*.^[9] Such studies would aid in specific minute diagnosis, at the level of *Gunas of Dosha* involved in *Samprapti* of a disease thereby be beneficial to adopt

specific line of treatment. *Katishula* relieved by *Shunthichurna udvartana* is due to its *Ushna* property and it acts as *Shulaprashamana* against *Sheetaguna* of *Vata* involved in its pathology. Hence, based on the above results we can conclude that *Shunthichurna* has a definite role in relieving *Katishula* symptoms including reduction in pain by its *Ushnaguna* and *Shulaprashamana* property against *Sheetaguna* of *Vata* in *Katishula*.

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