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Research Article

COMPARATIVE CLINICAL EVALUATION OF *MATRA BASTI* WITH *PIPPALYADI TAILA* AND *ASHTAKATVARA TAILA* IN *KATISHOOLA*

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ABSTRACT

Ayurveda deals with good, bad, happy and unhappy life, its promoters and non-promoters, measurement and nature. *Katishoola* is the condition which is characterized by *Shoola* and *Stabdata*, due to vitiated *Vata* which gets lodged in the *Kati pradesha*. It is explained as one of the *Lakshanas* of *Vata Vyadhi*. But *Bhavaprakasha* and *Gada Nigraha* explained it as a separate *Vyadhi. Charaka* explained it in *Vataja Nanatmaja Vikaras*.

The symptoms of *Katishoola* can be correlated to low back pain. It is one of the most common problems in the orthopedic field today. Pain effects about 3-12% of the populations and in turn have its impact on the socio-economic activity of an individual.

Panchakarma play a vital role in Ayurvedic therapeutics and as such they occupy an important place in Ayurvedic medicine. Among these *Basti Karma* is the prime treatment modality in *Vata Vyadhis*. It is considered as the *Ardha Chikitsa. Matra Basti* is a type of *Sneha Basti.* It acts as *Brumhana, Snehana* and does *Vata shamana*.

There are so many effective treatments presently available for *Katishoola*. In that, *Basti* is the primary and effective treatment not only for *Katishoola* but also for each and every *Vata vyadhis*. *Pippalyadi Taila* and *Ashtakatvara Taila* are having good effect on *Vata Vyadhis*.

INTRODUCTION

In the present era, competition or race for everything made humans more susceptible to many musculo skeletal diseases. The prime factors that are responsible for the decline of health are irregular food habits, swift jerky movements, stress, suppression of natural urges, lack of proper sleep and relaxation. In this scenario especially sciatica, low back pain incidences are increasing day by day.

The first attack is often sudden in onset and occurs while lifting stooping, though sometimes pain in slight at first but increase over the next few hours the patient may be fixed, bent and has backache. Sometimes may worse the condition by straining. Usually these symptoms subside in a few days or week.

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Low back pain is more common, second only to the common cold. About 50% of working adult experiences a back injury each year and the incidence of Low back pain ranges from 11% – 40%.

With all the symptomatology of low back pain comes under the purview of *Katishoola. Katishoola*, an entity enumerated by *Shulapradhanavyadhi* and is one among the 80 types of *Nanatmajavatavyadhis.*[1] According to *Acharya Charaka, Stamba, Ruk, Toda Spandana, Aruci*, *Tandra* and *Gourava* are the symptoms[2]. According to *Acharya Charaka, Gridhrasi* is caused predominantly due to the vitiation of *Vata* or *Vata–Kapha. Gridhrasi* is pathological entity in which pain starts from the buttocks, waist or back and radiates gradually towards the thigh, knee, leg and foot. If there is stiffness pain, pins and needles restricted mobility and frequent catching sensation it is due to *Vata* on the other hand if drowsiness heaviness and anorexia are present in addition it is due to *Vayu* and *Kapha.*

Despite of technological and pharmacological advances, the management of *Katishoola* is still a medical problem, where no permanent medical

treatment is available, except some palliative measures, were again chances of reoccurrence are high.

Ayurvedic approach towards the disease is holistic. Numerous therapeutic modalities have been advocated by our *Acharyas* in the management of each and every disease.

Management of *Gridhrasi* comes under the treatment protocol of *Vata Vyadhi Chikitsa* where in *Snehana, Swedana, Basti chikitsa* make a major part.

Basti therapy is considered as *chikistsaardha* among all therapies. *Matrabasti* is a type of a *Sneha basti* which can be given in anytime, in any season and to anybody. It cures *Vataja* diseases. Moreover, it can be administered easily and without any restriction in food and activites[3].

Pippalyadi Taila and *Ashtakatvara Taila* are having good effect on *Vata Vyadhis*[4,5]. As *Katishoola* is also one of the *Vata Vyadhi*, this clinical trial "Comparative Clinical Evaluation of *Matra Basti* with *Pippalyadi Taila* and *Ashtakatvara Taila* in *Katishoola*" is taken for the study.

MATERIALS AND METHODS

All the Ayurvedic, modern literatures and contemporary texts including the journals, websites about the disease the disease, drug and formulation will be reviewed and documented for the intended study.

The *Pippalyadi taila* and *Ashtakatvara taila* formulations which is selected for the study will be prepared in pharmacy of Karnataka Ayurveda Medical College.

Patients visiting OPD and IPD of the Department of Panchakarma, Karnataka Ayurveda Medical College Hospital and other Camps complaints of *Katishoola* will be included for the proposed study.

40 patients of *Katishoola* are randomly selected and equally divided into 2 groups.

Group A: 20 patients will receive *Pippalyadi Taila Matra Basti*.

Group B: 20 patients will receive *Ashtakatvara Taila Matra Basti.*

The patients having signs and symptoms of *Katishoola* were screened and those who fulfilled the below mentioned inclusion criteria were selected for the study.

Signs and symptoms of *Katishoola* which are explained in the texts of Ayurveda and contemporary texts are the criteria of diagnosis.

Exclusion Criteria

- Aged below 25 and above 55 years.
- Suffering from any other chronic systemic diseases.
- Basti Ayogya persons.
- Chronic cases of *Katishoola* with the history of 5 years.
- Pregnant and lactating women.
- Any injury/trauma etc.

Inclusion Criteria

- Aged between 25 to 55 years.
- Having the classical signs and symptoms of *Katishoola*.
- *Basti Yogya* persons.
- Patients of both sexes.

Table 1: Grading of *Shoola* in *Kati pradesha*

Shoola* in *Kati pradesha	**Grade**
Absent	0
Mild	1
Severe	2

Table 2: Grading of *Stabdata* in *Kati pradesha*

Stabdata* in *Kati pradesha	**Grade**
Absent	0
Mild	1
Severe	2

Table 3: Grading Range of movement of lumbar spine

Range of movement of lumbar spine	**Grade**
75 to 90 degree	**0**
30 to 74 degree	**1**
<30 degree	**2**

Table 4: Grading of walking time

Walking time	**Grade**
< 15 sec 0	0
16-30 sec	1
>30 sec	2

Table 5: Group Allocation

Group	**Treatment**	**Dose**	**No. of Days**
A	*Pippalyadi Taila*	72ml	14 days
B	*Ashtakatvara Taila*	72ml	14 days

Plan of Study

40 patients fulfilling the diagnostic and inclusion criteria were selected by convenience sampling method and were treated in two groups of 20 patients each.

Group A - *Matra Basti* with *Pippalyadi Taila* about 72ml will be done for 14 days, from day 1 to day 14. The pre and post therapeutic subjective and objective criteria will be recorded on day 1 before the first sitting of *Matra Basti* and on day 14 after the completion of the treatment.

Group B - *Matra Basti* with *Ashtakatvara Taila* about 72ml is done for 14 days, from day 1 to day 14. The pre and post therapeutic subjective and objective criteria will be recorded on day 1 before the first sitting of

Matra Basti and on day 14 after the completion of the treatment.

Data was collected using case report form (CRF) designed for the study. The collected data was tabulated and analysed by SPSS (Statistical Package for Social Sciences) version 22 by using appropriate statistical test. Results were expressed as mean, standard deviation and proportions.

The data is checked for normality and found that it does not follow normality; hence non-parametric tests are used. To compare the effect of treatment, Wilcoxon Sign rank test is used. It is a non-parametric test analogue to paired t-test when data does not follow normality. p-value of <0.05 was considered to be statistically significant, <0.01 was highly significant and <0.001 was considered.

Gallery


Fig 1 & Fig 2: Preparation of *Pippalyadi taila*


Fig 3 & Fig 4: Preparation of *Pippalyadi taila*

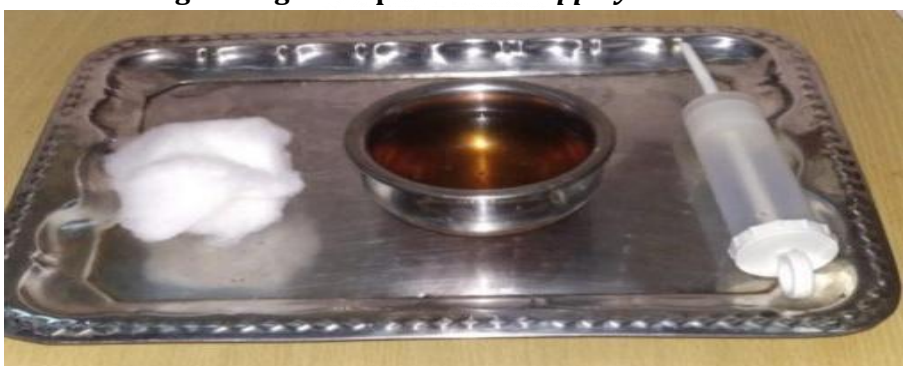

Fig 5: Arrangement for *Matravasthi*

OBSERVATION AND RESULTS

Table 6: Patient status

S. No.	Patients	Group A	Group B	Total
1.	Registered	20	20	40
2.	Completed	20	20	40

In the clinical study total 40 patients were registered in both groups. Among them 20 patients were in group A and 20 patients in group B. Total 40 patients had completed the treatment.

Table 7: Age wise distribution of patients

Age group (in years)	Number of Patients		Total	%
	Group-A	Group-B		
25-35	12	10	22	55
36-45	04	04	08	20
46-55	04	06	10	25
Total	**20**	**20**	**40**	**100.00**

The above table shows that maximum numbers of patients i.e., 55% belonged to age group of 25-35 years followed by 20% patients to 36-45 years of age group and only 25% patients belonged to 46-55 years of age group.

Table 8: Sex wise distribution

Sex	Number of Patients		Total	%
	Group-A	Group-B		
Male	14	17	31	77.50
Female	06	03	09	22.50
Total	**20**	**20**	**40**	**100.00**

Table shows that maximum number of patient's i.e., 82.22% were male and rest of 17.78% were female.

Table 9: Religion wise distribution patients

Religion	Number of Patients		Total	%
	Group-A	Group-B		
Hindu	19	18	37	92.50
Muslim	01	02	03	07.50
Total	**20**	**20**	**40**	**100.00**

It is evident from above table that maximum 92.50% patients were Hindus followed by 07.50% of Muslims.

Table 10: Habitat wise distribution

Habitat	Number of patients		Total	%
	Group-A	Group-B		
Urban	17	15	32	80
Rural	03	05	08	20
Total	**20**	**20**	**40**	**100.00**

As per above mentioned data, it can be said that 80% patients belonged to urban area and 20% patient belonged to rural area.

Table 11: Education wise distribution

Education	Number of patients		Total	%
	Group-A	Group-B		
Uneducated	02	00	02	05.00
Primary	19	13	32	80.00
Graduate	01	05	06	15.00
Total	**20**	**20**	**40**	**100.00**

The data of present studies shows that 80.00% patients were having primary level education, 15% were graduate and 5% patients were uneducated.

Table 12: Occupation wise distribution

Occupation	Number of patients		Total	%
	Group-A	Group-B		
Labour	15	07	22	55
Service	02	05	07	17.50
Housewife	05	02	07	17.50
Student	00	00	00	0
Business	01	03	04	10
Total	**23**	**17**	**40**	**100.00**

On considering the nature of occupation, It was found that maximum i.e., 55% patients were laborers followed by servicemen and housewives i.e., 17.50%, 10% of business and 0% of students.

Table 13: Job wise distribution

Job	Number of patients		Total	%
	Group-A	Group-B		
Physical labour	13	06	19	47.50
Manual work	05	08	13	32.50
Sedentary work	03	05	8	20
Total	**21**	**19**	**40**	**100.00**

Table shows that maximum i.e., 47.50% patients were associated with physical labour in day to day life while 32.50% were doing manual work and 20% were associated with sedentary work style.

Table 14: Socio-economic status wise distribution

Socio-Economic status	Number of patients		Total	%
	Group-A	Group-B		
Poor	03	00	03	07.50
Middle	14	12	26	65
Upper-middle	04	07	11	27.50
Total	**21**	**19**	**40**	**100.00**

Table shows that maximum i.e., 65% patients were belonging to middle class, while 27.50% were from upper middle class and only 7.50% patients were poor.

Table 15: Marital status wise distribution

Marital status	Number of Patients		Total	%
	Group-A	Group-B		
Married	18	19	37	92.50
Unmarried	01	02	03	07.50
Total	**19**	**21**	**40**	**100.00**

Maximum 92.50% of the patients were observed married while 7.50% were unmarried.

Table 16: Diet wise distribution

Diet	Number of patients		Total	%
	Group-A	Group-B		
Vegetarian	9	7	16	40
Mixed	14	10	24	60
Total	**23**	**17**	**40**	**100.00**

Maximum of patients selected for the present study were having mixed diet i.e., 60% and rest i.e., 40% were having vegetarian diet.

Table 17: Dietetic habit wise distribution

Dietetic habit	Number of patients		Total	%
	Group-A	Group-B		
Samashana	07	04	11	27.50
Vishamashana	09	06	15	37.50
Adhyashana	07	05	12	30
Virrudhashana	01	01	02	5
Anashana	00	00	00	00.00
Total	**24**	**16**	**40**	**100.00**

Observations of dietetic habit showed that majority of patients followed *Vishamashana* (37.50%) and rest followed *Adhyashana* (30%) & *Samashana* (27.50%).

Table 18: Addiction wise distribution

Addiction	Number of patients		Total	%
	Group-A	Group-B		
Smoking	05	04	09	22.50
Tobacco	09	10	19	47.50
Alcohol	01	00	01	02.50
No addiction	04	07	11	27.50
Total	**19**	**21**	**40**	**100.00**

Table shows that 47.50% patients were having addiction of tobacco & 22.50% patients were having smoking as addiction. Only 02.50% patients had addiction to alcohol while rest i.e., 27.50% had not any addiction at all.

Table 19: Dominance of *Rasa* wise distribution

Rasa Dominant	Number of patients		Total	%
	Group-A	Group-B		
Madhura	15	07	22	55.00
Amla	03	05	08	20.00
Lavana	04	02	06	15.00
Katu	01	03	04	10.00
Tikta	00	00	00	0
Kashaya	00	00	00	0
Total	**23**	**17**	**40**	**100.00**

It is evident from the table that maximum patients were having *Katu* (55%), *Amla* (20%) and *Lavana Rasa* (15%) dominancy in their diet.

Table 20: Nature of sleep wise distribution

Sleep	Number of patients		Total	%
	Group-A	Group-B		
Sound	18	19	37	92.50
Disturbed	02	01	03	07.50
Total	**20**	**20**	**40**	**100.00**

In this study majority of the patients i.e., 92.50% had sound sleep and only 07.50% patients were having disturbed sleep.

Table 21: Psychological condition wise distribution

Psychological condition	Number of patients		Total	%
	Group-A	Group-B		
Happy	13	14	27	67.50
Worried	07	06	13	32.50
Total	**20**	**20**	**40**	**100.00**

In this study majority of the patients i.e., 67.50% had happy psychological condition and 32.50% patient was having worried psychological condition.

Table 22: Bowel history wise distribution

Bowel history	Number of patients		Total	%
	Group-A	Group-B		
Samyaka	18	11	29	72.50
Savibandha	06	05	11	27.50
Atipravritti	00	00	00	00.00
Total	**20**	**20**	**40**	**100.00**

In this study majority of the patients i.e., 72.50% had normal bowel habit and 27.50% patients were having constipated bowel habit. No patient complained of *Atipravritti* of Mala (diarrhea).

Table 23: Micturition wise distribution

Bowel history	Number of patients		Total	%
	Group-A	Group-B		
Samyaka	19	20	39	97.50
Sadaha	01	00	01	02.50
Atipravritti	00	00	00	00.00
Alpa	00	00	00	00.00
Total	**20**	**20**	**40**	**100.00**

In this study majority of the patients i.e., 97.50% had normal micturition but 02.50% patient had burning micturition due to UTI.

Table 24: Effect of therapy by *Pippalyadi taila matravasthi*

Symptoms	Mean Score		% relief	S.D	S.E	T	P
	BT	AT					
Shoola	1.5	0.45	70.00	0.43	0.09	29.07	<0.001
Stabdata	1.25	0.05	96.00	0.74	0.16	06.48	<0.001
Range of Movement	1.7	0.3	82.35	0.58	0.12	08.14	<0.001
Walking time	1.7	0.4	76.47	0.47	0.10	01.36	<0.001

The above table shows that the *Shoola* was decreased 70.00% in *Pippalyadi* group which was found statistically highly significant. *Stabdata* was reduced up to 90.00% which was statistically highly significant also. The range of movement was 82.35% which was highly significant statistically. Walking time was improved in 76.47% with statistically high significant results.

Table 25: Effect of therapy by *Ashtakatvara taila matra basti*

Symptoms	Mean Score		% Relief	S.D	S.E	t	P
	BT	AT					
Shoola	1.4	0.4	71.42	00.58	0.12	20.86	<0.001
Stabdata	1.35	0.1	92.58	00.71	0.15	06.50	<0.001
Range of Movement	1.6	0.6	62.05	00.56	0.12	08.16	<0.050
Walking time	1.65	0.5	69.69	00.60	0.13	01.73	<0.050

This table shows that the size of *Shoola* was decreased 71.42% in *Ashtakatvara taila* treated group which was statistically highly significant. *Stabdata* was reduced up to 92.53% which was statistically highly significant. The Range of movement was 62.05% which was significant statistically. Walking time was improved in 69.69% with statistically significant results.

DISCUSSION

Discussion on Observation

Age

Maximum numbers of patients i.e., 55% belonged to age group of 25-35 years followed by 20% patients to 36-45 years of age group and only 25% patients belonged to 46-55 years of age group.

Sex

Maximum number of patient's i.e., 82.22% was male and rest of 17.78% was female.

Religion

Maximum 92.50% patients were Hindus followed by 07.50% of Muslims.

Habitat

It can be said that 80% patients belonged to urban area and 20% patient belonged to rural area.

Education

Studies shows that 80.00% patients were having primary level education, 15% were graduate and 5% patients were uneducated.

Occupation

On considering the nature of occupation, It was found that maximum i.e., 55% patients were laborers followed by servicemen and housewives i.e., 17.50%, 10% of business and 0% of students.

Job

Maximum i.e., 47.50% patients were associated with physical labour in day to day life while 32.50% were doing manual work and 20% were associated with sedentary work style.

Socio-Economic

Maximum i.e., 65% patients were belonging to middle class, while 27.50% were from upper middle class and only 7.50% patients were poor.

Marital Status

Maximum 92.50% of the patients were observed married while 7.50% were unmarried.

Diet Wise

Maximum of patients selected for the present study were having mixed diet i.e., 60% and rest i.e., 40% were having vegetarian diet.

Dietetic Habit

Dietetic habit showed that majority of patients followed *Vishamashana* (37.50%) and rest followed *Adhyashana* (30 %) & *Samashana* (27.50%).

Addiction

Shows that 47.50% patients were having addiction of tobacco & 22.50% patients were having smoking as addiction. Only 02.50% patients had addiction to alcohol while rest i.e. 27.50% had not any addiction at all.

Dominance of *Rasa*

It is evident from that the maximum patients were having *Katu* (55%), *Amla* (20%) and *Lavana Rasa* (15%) dominancy in their diet.

Nature of Sleep

In this study majority of the patients i.e., 92.50% had sound sleep and only 07.50% patients were having disturbed sleep.

Psychological Condition

In this study majority of the patients i.e., 67.50% had happy psychological condition and 32.50% patient was having worried psychological condition.

Bowel History

In this study majority of the patients i.e., 72.50% had normal bowel habit and 27.50% patients were having constipated bowel habit. No patient complained of *Atipravritti* of *Mala* (diarrhoea).

Micturition

In this study majority of the patients i.e. 97.50% had normal micturition but 02.50% patient had burning micturition due to UTI.

Effect of Therapy by *Pippalyadi Taila Matravasthi*

The above table shows that the *Shoola* was decreased 70.00% in *Pippalyadi* group which was found statistically highly significant. *Stabdata* was reduced up to 90.00% which was statistically highly significant also. The range of movement was 82.35% which was highly significant statistically. Walking time was improved in 76.47% with statistically high significant results.

Effect of Therapy by *Ashtakatvara Taila Matra Basti*

This table shows that the size of *Shoola* was decreased 71.42% in *Ashtakatvara taila* treated group which was statistically highly significant. *Stabdata* was reduced up to 92.53% which was statistically highly significant. The Range of movement was 62.05% which was significant statistically. Walking time was improved in 69.69% with statistically significant results.

Mode of Action of *Basti*

Eliminative or purificative action of *Basti*, *Basti* enters the *Pakvashaya* which the main site of *Vata Dosha* and destroys it which is the originator of all diseases. By subsiding the *Vata* all diseases located in the other parts of the body also become allayed just as by the eradication of the roots of a plant, the stem, the branches, sprouts. However fruits, leaves etc. also vanish.

Basti administered into the *Pakvasaya* draws the *Dosha/Mala* from all over the body from the foot to the head by virtue of its *Virya*, just as the sun situated in the sky draws the moisture from the earth by virtue of its heat. As the cloth sucks up the pigment only from the water dyed with saf-flower, similarly, *Basti* eliminates only the waste substances (*Mala*) from the body.

Systemic action of *Basti*, the *Virya* of the drugs administered through the *Basti* into the *Pakvashaya* reaches the whole body through the channels (*Srotas*), as the active principles in the water when poured at the root of the tree reaches the whole plant.

Nutritive action of *Basti*, Just as a tree fed with water at its roots, puts forth green leaves and delicate sprouts, and in due time grows into a big tree, full of blossom and fruit, similarly does a man grow strong by means of *Anuvasana Basti.* The fact that *Basti* introduced into *Pakvashaya* reaches all over the body, is well explained by *Chakrapani*. He has quoted the reference of *Parasara* that *Guda* is the *Mula* of the body where all the *Siras* located. The *Sneha* administered through *Guda* reaches up to head giving the nutrition to the body.

Though *Basti* drug quickly comes out alone or with stool, its effect took place all over the body with the help of *Vayu*. This action takes place just like as sun draws moisture from the earth. As firstly the *Virya* of the *Basti* drugs reaches the *Apana Vayu*, then it is handed over to *Samana Vayu*. After nourishing *Samana Vayu* it reaches the *Vyana Vayu*, thereafter it acts on *Udana Vayu* and *Prana Vayu.* When all these five types of *Vata* get their normal state, they promote health. Then these *Virya* of *Basti* drug acts on the *Pitta* and *Kapha* to bring them in normal states and provides them nourishment. Just as whole farm gets its nourishment by water supplied to it through channels, the whole body gets nourishment by the *Virya* of *Basti* drugs carried by five types of *Vata* through *Srotasa*.

The same action of *Basti* drugs has been described by *Acharya Charaka* as the *Basti*, when lying in the *Pakvashaya*, draws by its *Virya* and morbid

Dosha lodged in the ntire body from the foot to the head, just as the sun situated in the sky sucks up the moisture from the earth.

Basti performs the function of *Apananulomana* hence increases the *Jatharagni* ultimately normalize the *Agni* which is said to be the main cause of any disease. Thus *Basti* has its effect on two important factors viz., *Vata* and *Agni* which are responsible for proper formation of *Dhatu* and thereby establish their normal functions. Active principles of the ingredients used in the *Basti* gets absorbed and then through general circulation reaches at the sites of the lesion and relieves the disease. That is why *Acharya Sushruta* has mentioned that by using the different ingredients, *Basti* can cure *Paitika, Kaphaja, Raktaja, Sansargaja* and *Sannipatika* disorders through it is the best treatment for *Vata Dosha*.

CONCLUSION

The effect of treatment statistically shows significant good results in group *Pippalyadi Taila Matra Basti* when compared to group *Ashtakatvara Taila Matra Basti.*

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