

A Clinical Study to Evaluate the Efficacy of Shudha Bala Taila Matra Basti in the Management of Kampavata with Special Reference to Parkinson's Disease

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ABSTRACT

Parkinson's disease is the Second commonest Progressive Neurodegenerative disorder in the old age group. In Ayurveda it is known as "Kampa Vata". The signs and symptoms as Karapadatala Kampa, Dehabhramana, Nidrabhanga and Matiksheena are observed in Kampavata. These symptoms mimic to that present in Parkinson's Disease such as Tremors, Rigidity, Bradykinesia, Sleep Disturbances, Cognitive Impairment. Men are 1.5 times more likely to have Parkinson's Disease than women. Currently there is no Effective treatment for Parkinson's disease. Here in this study, 30 patients diagnosed as Kampavata were subjected to Deepana pachana with trikatu choorna, koshtashodhana with Murchita eranda taila and Matra basti with shuddh bala taila was carried out in this study. Statistically significant results were seen in both subjective and objective parameters.

KEYWORDS: *Kampavata, Parkinson's Disease, Shuddha Bala taila, Matra basti*

How to cite this paper: Dr. Anupama. K. M | Dr. Rajesh Sugur | Dr. Doddabasayya "A Clinical Study to Evaluate the Efficacy of Shudha Bala Taila Matra Basti in the Management of Kampavata with Special Reference to Parkinson's Disease" Published in International

Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-7 | Issue-6, December 2023, pp.769-773,

URL: www.ijtsrd.com/papers/ijtsrd61298.pdf



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INTRODUCTION

Kampavata is mentioned as Vepathu in charaka samhita which is one among Vatajananatmaja Vyadhi¹. Basavarajiyam has mentioned this as a separate disease and mentioned its symptoms as Karapadatalakampa, Dehabhramana, Nidrabhanga, Ksheenamati.² Kampavata can be correlated to Parkinson's disease.

Parkinson's disease is the Second commonest Progressive Neurodegenerative disorder in the old age group. The worldwide prevalence rate increased from 6M in 2016 to 9.4M in 2020.³ CPR of 6-53/100,000 have been reported in India. It is higher above 60 years of age being 247/100,000.⁴

Degeneration of pigmented pars compacta neurons of the substantia nigra in the midbrain resulting in lack of dopaminergic input to striatum; accumulation of

cytoplasmic intraneural inclusion granules (Lewy bodies). Cause of cell death is unknown, but may result from generation of free radicals and oxidative stress, inflammation or mitochondrial dysfunction. The cardinal features of Parkinson's Disease are Rest Tremors, Rigidity, Bradykinesia, Gait impairment⁵. In spite of advancement in the field of medicine, treatment of Parkinson's disease remains highly symptomatic and no curative treatment is available. This instils a need for Ayurvedic management of Kampavata.

Basti Chikitsa is the best treatment for Vatavyadhis.⁶ It is Vatahara⁷, Paramoushadhi⁸ for Vatavyadhi and it has activity of Apadatalamurdhastan.⁹ Therefore Basti is considered as Ardha Chikitsa¹⁰. Matrabasti is one of the variety of Sneha Basti where minimal dose of Sneha is used is taken for this study.¹¹

AIMS AND OBJECTIVES

To clinically evaluate the efficacy of Shudha Bala Taila matra basti in the Management of Kampavata with special reference to Parkinson's Disease.

METHODOLOGY

30 Subjects diagnosed as Kampavata (Parkinson's disease) were taken for the study from OPD/IPD of Taranath Government College of Ayurveda, Ballari and by conducting special camps.

TREATMENT PROTOCOL

Purva karma - Deepana pachana with Trikatu Choorna (1-3gms thrice a day with Ushnajala, Before food) for 3-5 days till niraama lakshanas are attained. Koshtashodhana with murchita eranda taila, one day before starting matrabasti. Dose decided based on koshta (20-60ml) given with Ushnajala Anupana.

Pradhana karma - On the day of matrabasti, sthanika abhyanga (to kati, sphik, udara, sakthi) with murchita tila taila followed by Nadisweda. 2 masha of shatapushpa churna and saindhava lavana added as prakshepaka dravya to taila. The patient is administered matrabasti of 72ml with shudha bala taila for 16 days.

Paschat karma - Hasta pada mardana, sphik tadana, ushna jala snana is advised.

DIAGNOSTIC CRITERIA

Symptoms of both Kampavata and Parkinson's Disease are considered.

- Karapadatalakampa - Resting tremors of head or extremities (unilateral /bilateral)
- Dehabhramana – Postural Instability.
- Nidrabhanga – Insomnia.
- Ksheenamati – Cognitive impairments

Modern criteria

- Bradykinesia
- Rest tremors
- Rigidity
- Postural instability

INCLUSION CRITERIA:

- Subjects fulfilling the criteria of diagnosis of Kampavata and Parkinson's disease.
- Subjects aging between 40 to 70 years.
- Subjects fit for Matra basti.

EXCLUSION CRITERIA:

- Secondary Parkinsonism, Parkinson plus syndrome, Brain tumor.
- Subjects with uncontrolled metabolic and other systemic disorders.
- Subjects with Marked mental impairments. (MMES < 20)

ASSESSMENT CRITERIA: The subjective and Objective parameters of baseline data to post medication data compared for assessment of the final results.

- Subjective and objective parameters are given gradings and will be assessed before treatment and after treatment.
- UPDRS assessment done before and after treatment.
- **Subjective parameters**
- Kampa pada tala kampa (Resting Tremors): at least in one limb.
- Dehabhramana (Postural instability)
- Ksheena mati (cognitive impairments) – assessed using mini mental scale
- Rigidity (Sthamba)
- **Objective parameters**
- Walking time
- Marie's sign
- Nidrabhanga (Insomnia)-Assesment is done using Athens insomnia scale
- Functional assessment - Hand grip power, Foot pressure.

OBSERVATIONS

Distribution of subjects according to Age group :-
Maximum 20(66.67%) of the subjects belong to the age group of 61- 70yrs, followed by 5(16.67%) belong to the age group of 51-60 yrs and 5(16.67%) subjects belong to age group of 40-50yrs.

Table no 1: Distribution of subjects according to Symptoms

Symptoms	Frequency	Percentage(%)
Kampa	30	100%
Chestahani	27	90%
Stamba	24	80 %
Nidrabhanga	30	100%
Ksheena mati	11	36.67%
Dehabhramana	28	93.33%

All the 30 subjects of Kampavata were having the main complaint as Kampa and Nidrabhanga (100%), 90.00% were having Chestahani, 93.33% were having Dehabhramana, 80.00% patients were having Stambha, However 36.67% patients had Ksheeramati. (As in Table no -1)

RESULT**Table no 2 - ASSESSMENT OF TOTAL EFFECT OF INTERVENTION**

Parameters	MEAN SCORE				% of change	Chi square	P value	Significance	
	BT	AT	AF1	AF2					
Kampa	2.43	1.56	1.46	1.33	50%	75.560	<0.001	HS	
Dehabhramana	1.50	1.30	1.26	1.20	17.7%	19.286	0.273	NS	
Ksheenamati	0.3	0.3	0.3	0.3	0	0.00	1.00	NS	
Sthamba	2.16	1.50	1.33	1.26	48.6%	63.907	<0.001	HS	
Walking time	51.53	40.30	37.60	33.53	34.5%	85.36	<0.001	HS	
Marie's sign	17.76	19.70	20.33	21.03	16.3%	69.844	<0.001	HS	
Hand power	Right	25.93	34.73	38.10	45.66	43.2%	87.82	<0.001	HS
	Left	22.50	31.53	34.73	38.23	41.8%	84.77	<0.001	HS
Foot pressure	Right	26.56	35.03	37.66	44.53	22.9%	84.46	<0.001	HS
	Left	22.96	31.63	34.96	38.33	40.55%	85.07	<0.001	HS
Nidrabhanga	10.63	4.73	4.00	3.56	68.5%	80.689	<0.001	HS	
Mentation, Behaviour and Mood	4.86	3.56	3.43	3.36	31.8%	76.232	<0.001	HS	
Activities of Daily living	19.13	12.23	11.13	10.40	48.8%	78.714	<0.001	HS	
Motor Examination	25.73	18.40	16.76	15.76	41.6%	80.416	<0.001	HS	
UPDRS Total score	49.73	34.20	31.33	29.53	43.1%	82.011	<0.001	HS	

BT- Before treatment, AT-After Treatment,AF1- Follow up 1,AF2- Follow up 2.HS- Highly significant

➤ **Effect of therapy on parameters (As shown in Table no- 2)**

- Kampa - 50% improvement seen (P<0.001). Tremor is produced by Vata Prokopa especially of Vyana Vayu by its Chala Guna and probably due to Dhatuksaya and Avarana of Kapha. Bala possess Madhara, Tikta Rasa, Snigdha guna and also having Brimhana, Balya, Rasayana and vrishya Karma. So due to all these properties it might have alleviated of Vata and relief in Kampa is seen.
- Sthamba - 48.6% improvement seen (P-<0.001), effect of therapy on alpha and gamma motor neurons which helps in reduction of rigidity.
- Dehabrahmana -17.7% improvement (P- 0.273). No improvement in ksheena mati(P - 1.000) is observed.
- Walking time - 34.5% improvement, 16.3% improvement in Marie's Sign, 43.2% and 41.8% improvement in right and left-hand grip power respectively, 22.9% and 40.5% improvement in right and left Foot pressure respectively, 68.5% improvement in Nidra Bhanga (P -<0.001).
- Improvement in walking time, hand grip power and foot pressure is due to the drug Bala is Balya, Brimhana, Rasayana which provides strength and also the Matra basti procedure is said as Balya, Brimhana, Apadataala murdhastan.
- Improvement in marie's signs may be as matra basti provides indriya prasada and improvement

in sleep is because of swapnanupravrutti guna of matra basti and The 90% Serotonine is present in Gut and which may have got activated by Basti Procedure, which is inturn responsible for Sleep by producing melatonin in brain.

- 43.1% improvement in UPDRS Total score (P - <0.001),it consists of mentation, behaviour and mood, there was very mild improvement which could be due to the indriya prasadata, swapna pravrutti of matra basti procedure. And Motor activities may be improved because of the Balya, Brimhana, Vatahara, Rasayana properties of the Shuddha bala taila and also matra basti.
- In this study, maximum patients 21(70%) got Moderate improvement, 6(20%) got Mild improvement, 3(10%) Subjects got Marked improvement in both subjective and objective parameters.

DISCUSSION

Vata is the foremost dosha to be controlled as it is the hetu for pitta and kapha Dusti.Hence basti is mentioned as Sadhyatama chikitsa for vata. For the rakshana of Prana, Marma should be protected from Vata. There is no treatment equal to basti for the protection of marma and in the management of their affliction. As the Kampavata (Parkinson's Disease) is one among the Vataja nantmaja vikara And also the Adhishtana of the disease is Shiras which is one among the Trimarma. Hence it has to be protected, which can be done through basti.

Deepana pachana and koshta shodhana is done prior to basti to attain Nirama Avastha. Matrasti has no restrictions of aharavihara. It can be given in all times and all seasons as it has no upadrava or complications. It can be given in case of vriddha, bala etc. The quantity is equivalent to hrasvamatra of snehapana. He further adds that this basti is Balya, sukopacharaya, sukhamshrisht-pureeshakrita, brimhana, vataroganugata.

In phala shruti of Shuddha bala taila, **Vataroga Vinashanam** is mentioned. This taila contains tila taila, Bala (Sida cordifolia) and Go ksheera. The drug Bala has properties like Balya, Brimhana, Vatakaphahara, Vrishya, Anti Parkinson's action, Anti oxidative, Anti-inflammatory, Analgesic & Neuroprotective action. Goksheera is Jivaniya, Brimhaniya, Balya, Snehaniya, Dahanashaka, Ojovardhak, Vishanasaka, Sukrajanaka, Agnidepaka, Ayurvedhaka, Medavardhaka, Rasayana, Mridu Rechaka, Abhisyananda Karaka.

Chemical constituents -Sesame is a rich source of Tyrosine. Here in this study sesame oil is used as base for the preparation of shuddhabala taila. Cow's milk contains Phenylalanine which is required for tyrosine production. Hence these may have caused the increase in dopamine levels and thus reducing the symptoms. Tyrosine is a precursor to neurotransmitters and increases plasma neurotransmitter levels (particularly dopamine and norepinephrine).

Pathogenesis of Parkinson's disease is exacerbated by neuroinflammation and oxidative stress. Hence Antioxidant and anti-inflammatory effect of the drug acts here.

CONCLUSION

Basti is ardha chikitsa and also it is considered as shreshta chikitsa for Vata dosha. Thus matra basti being one of helps to alleviate vata which results in reducing the symptoms like kampa, sthamba. Shuddhabala taila showed anti parkinsons action due to presence of the Drug Bala.

In addition it also showed marked relief in associated symptoms such as vibhandha, sandhishoola and supti which inturn resulted in improvement of quality of life. Matra basti do not have any Pariharya Vishaya, Easily administered and can be practiced in OPD level, which makes it the efficient therapy for today's fast paced culture. Statistically Significant results were found in both subjective and objective parameters. Hence here is the study, showing the effective of management of kampavata with Shuddhabala taila matra Basti.

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