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OBSERVATIONAL CLINICAL STUDY**



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RESEARCH ARTICLE

MANAGEMENT OF PARKINSON'S DISEASE: AN OBSERVATIONAL CLINICAL STUDY

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ABSTRACT

Parkinson's disease is a common neurodegenerative disease characterized by the presence of bradykinesia, rigidity, resting tremor and postural instability. The purpose of this clinical study is to determine the *panchakarma therapy* an effective and safe treatment option that can enhance the speed and degree of recovery, minimal risk associated with *panchakarma* and high patient acceptance in preference to other methods of treatment of Parkinson's disease. Hence, the study was performed with some herbal drugs with low toxicity profile and their effects were evaluated with the help of clinical study. Total 10 patients diagnosed as Parkinson's disease of any socio-economic status, age group of 41-70 years and irrespective of sex of all ethnic origins were randomly selected. The trial was designed as a thirty days *Panchakarma therapy (Karma Basti)*. The UPDRS (Unified Parkinson's Disease Rating Score) scale was applied to the measure the degree of improvement and conclusion was drawn that *Panchakarma therapy* is highly significant in cases of Parkinson's disease.

The *Panchakarma therapy* provided a significant effect on the symptom bradykinesia (64.51%), rigidity (69.56%), tremors (64.51%) and postural stability (61.53%) of Parkinson's disease. Most of the patients, that is 07 patients (70%) were marked relieved, followed by 02 patients (20%) were moderately improved and 01 patient (10%) was completely cured after completion of the treatment. The clinical study illustrates that significant gains in improvement of balance, gait, functional movement made by an individual in relatively short periods of time. Patients with Parkinson's disease may often turn to *Panchakarma therapy* with the hope of improving their quality of life.

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INTRODUCTION

Parkinson's disease is a neurodegenerative disease that causes slowness of movement (bradykinesia), muscular stiffness (rigidity), tremor, poor postural stability, soft voice, shuffling gait, sudden cessation of movement called freezing and a paucity of spontaneous movements.^[1,2] Motor manifestations typically begin on one side of the body, only later affecting the other side as well.^[3] It is progressive disorder characterized by insidious onset. The first clinical sign occurs when about 60% of the dopamine-producing cells in the substantia nigra have degenerated.^[4] Mean age of onset of disease is in the mid fifties, with increasing incidence and prevalence as age increases.^[5]

The condition occurs in all ethnic groups and there is a 1.8 times greater risk of Parkinson's disease in men. The cause of disease remains uncertain but it is likely to be due to a combination of genetic risk factors and environmental agents. The main motor symptoms of Parkinson's disease are –

Bradykinesia – slowness of movement

Rigidity – raised tone, which may be asymmetrical or limited to certain muscle groups

Tremor – involuntary shaking, trembling or quivering movement of the muscles. It is caused by the muscles alternately contracting and relaxing at a rapid pace.

Postural instability – balance problems, a later feature of idiopathic Parkinson's disease.

The non motor symptoms are of crucial importance since they have a major impact on quality of life. Neuropsychiatric symptoms are anxiety disorders, apathy, depression, psychosis, visual hallucinations, dementia and sleep disturbances.

The autonomic disturbances are urinary dysfunction, constipation, sexual dysfunction, postural hypotension, weight loss, dysphagia, sweating and excessive salivation.

The initial treatment of Parkinson's disease suggests, begins with diagnosis, patient education and then discussion of when and which drug treatment to initiate. Drug will not stop the progression of the disease but will usually decrease the symptoms. People with Parkinson's disease usually take medication for the rest of their lives; stopping medication at any time will mean a return of the symptoms. The most effective treatment is dopamine replacement therapy but long

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term use of L-dopa is associated with motor complications including dyskinesias and motor fluctuations.^[6]

To date, all the drug used to treat Parkinson's disease are symptomatic and there is no treatment proven to cure disease or delay its progression. Thus there is need for identifying an agent that will be neuro-protective and slow the progression of neuronal loss that occurs in Parkinson's disease. The importance of the subject and its necessity to explore the exact mode of action of *Panchakarma therapy* has given an impetus to carry out a full-fledged scientific study.

Ayurvedic Concept

Kampavata (Vepathu) is one among *vataj nanatmaja vyadhi* explained by *Acharya Charaka* in *Sutrastana 20*.^[7] *Kampavata* was first narrated by *Acharya Madhavakara* under the name of 'Vepathu'.^[8] *Acharya Charaka* and *Vangasen* used the term *Vepathu* instead of *Kampavata* and explained the similar symptoms as that of *Kampavata*.^[9] *Basavarajeeyam* explained the symptoms of *Kampavata* are *Karapadtal kampa* (tremors in hands and legs), *dehabramana* (postural instability), *nidrabhagna* (insomnia) and *Matiksheen* (dementia).^[10] The symptom like *Stambha* (rigidity), *Cestahani* (slowness of the movement), *Vinaman* (flexed posture), *Vakvikriti* (speech disorders) have been mentioned in other pathological conditions of *Vata vyadhi* which can also be grouped under the feature of *Kampavata*. In *Kampavata Avarana* of *Vata* and *Dhatukshaya* are the chief pathological processes. *Charaka* has stressed on *Srotoshuddhi*, *Vatanulomana* and *Rasayana* in general management of *Avarana*. *Vangasena* has clearly mentioned the treatment of *Kampavata* as *swedana*, *abhyanga*, *Anuvasana basti*, *Niruha basti*, *Shirobasti*, *Virechana* and *Shamanaushadhi*.^[11]

METHODOLOGY OF THE RESEARCH WORK

The research study entitled "Management of Parkinson's disease: An observational clinical study" was done with *Panchakarma therapy (Karma Basti)*.

Methods of collection of Data

- A clinical study of patients attending the OPD was made and patients fulfilling the criteria of diagnosis as per the proforma were selected for the study.
- A clinical evaluation of patients was done by collection of data through information obtained by history, physical examination, and laboratory tests including radiological investigations

- The data which were obtained by the clinical trial will be summarized and analyzed through statistical measures.

Inclusion Criteria

- Patients with classical features of Parkinson's disease explained in texts.
- Patients of any socio-economic status, both sexes and all ethnic origins.
- Patients with age group of 41-70 years.
- No other neurological deficit.
- Both fresh and treated cases were selected.

Exclusion Criteria

- Patients with uncontrolled metabolic and other systemic disorders.
- Psychiatric illness.
- Patients having surgical intervention were excluded.

Diagnostic Criteria

An elaborate proforma incorporating the points of history taking and physical examination was prepared. It mainly emphasized on signs and symptoms of Parkinson's disease. Routine laboratory investigation like CBC, RBS, Lipid profile, RFT, LFT, Urine test and radiological investigation, NCV was made to rule out other pathological conditions.

Research Design

It was an observational clinical study, patients was assigned into single group consisting of 10 patients excluding dropouts with pre, mid and post test study design.

Treatment Protocol

The patients were given *Panchakarma therapy* which includes *Abhyanga* of *Mahamasha taila* for 35 minutes followed by *Nadisweda* of *Dashmool kwath*. *Karma basti* in which *Anuvasan basti* of *Mahamansha taila* (60 ml) and *Niruha basti* containing decoction of *Kaunch*, *Ashwagandha*, *Yava*, *Kulthi*, *Pippali* and *Mulethi* (200ml), *Madhu* (20 ml), *Bala taila* (20 ml) and *Saindhav* (10gms) were administered. As per the classical text total 30 *basti* including 18 *Anuvasan basti* and 12 *Niruha basti* was given for one month.^[12]

Grading	Bradykinesia	Rigidity	Tremor	Postural stability
0	None	Absent	Absent	Normal
1	Minimal slowness, deliberate character, possibly reduced amplitude	Slight, detectable only with mirror movements	Slight & infrequently present	Retropulsion, but recovers unaided
2	Mild slowness, poverty or small amplitude of movement	Mild to moderate	Moderate, bothersome to patient	Absence of posture response, would fall if not caught
3	Moderate slowness, poverty or small amplitude of movement	Marked, but full range of movement easily achieved	Severe, interferes with many activities	Very unstable, spontaneous loss of balance
4	Marked slowness, poverty or small amplitude of movement	Severe, range of movement achieved with difficulty	Marked, interferes with most activities	Unable to stand without assistance

Criteria for Assessment

The initial assessment was done before the *Panchakarma therapy* and the post therapy assessment was done after 30 days of treatment given. Symptomatic assessment measures were considered to assess the progress of patient symptoms.

Outcomes measures – To assess the efficacy of *Panchakarma therapy*, the symptoms of Parkinson’s disease such as bradykinesia, rigidity, tremor and postural stability were noted carefully before and after the commencement of treatment. The UPDRS (Unified Parkinson’s Disease Rating Score) scale was applied to the measure the degree of improvement.^[13]

Assessment of total effect: The total effect of therapy was assessed as;

Assessment	Score
Complete cure	100%
Marked Relief	> 50%
Moderate Response	> 25 to 50%
Mild Improvement	< 25%
No response	0%

Observation

The effect of *Panchakarma therapy (Karma Basti)* was studied in 10 patients suffering from Parkinson’s disease fulfilling the inclusion criteria. The observations were as follows: Maximum numbers of patients were obtained in the age group of 51-60 years that is 50% followed by 40% patients in the age group of 61-70 years and 10% patients in the age group of 41-50 years. Most of the patients were male (70%). Most of the patients (60%) were retired officials and the maximum numbers of patients (60%) were from middle income group and 20% each in lower and high income group. Most of the patients (70%) were vegetarian. 80% of patients gave the history of illness from more than 1 year and 20% gave the history of illness from less than 1 year.

RESULT

There was significant improvement in overall functional status after 30 days treatment with *Panchakarma therapy (Karma basti)*. (Table 1) Clinical assessment was made from the interrogation and gradation of scoring pattern. Initially before starting the treatment the grading score for bradykinesia, rigidity, tremor and postural stability were 31, 23, 31 and 26 respectively. After commencement of one month *panchakarma therapy* the degree of improvement in grading score were bradykinesia – 11, rigidity – 07, tremor – 11 and postural stability – 10. The percentage of Unified Parkinson’s Disease Rating Score improvement for each symptom was calculated. In bradykinesia, rigidity, tremor and postural stability the relief percentage were 64.51%, 69.56%, 64.51% and 61.53% respectively. (Table 2) Most of the patients, that is 07 patients (70%) were marked relieved, followed by 02 patients (20%) were moderately improved and 01 patient (10%) was completely cured after completion of the treatment.(Table 3) There was no side effect observed during the treatment as well as after the completion of treatment.

Table 1 Effect of *Panchakarma therapy* on symptoms of 10 patients of Parkinson’s disease

Symptom	Mean		Diff. Mean	SD	SE	‘t’ value	P
	BT	AT					
Bradykinesia	3.100	1.100	2.000	0.568	0.180	7.878	P<0.001
Rigidity	2.300	0.700	1.600	0.483	0.153	7.407	P<0.001
Tremor	3.100	1.100	2.000	0.568	0.180	7.878	P<0.001
Postural stability	2.600	1.000	1.600	0.515	0.163	5.237	P<0.001

Table 2 Relief percentage of individual symptoms of 10 patients of Parkinson’s disease

Symptoms	Total score		Difference in total score	Relief percentage
	BT	AT		
Bradykinesia	31	11	20	64.51%
Rigidity	23	07	16	69.56%
Tremor	31	11	20	64.51%
Postural stability	26	10	16	61.53%

Table 3 Overall effect of *Panchakarma therapy* on 10 patients of Parkinson’s disease

Result	Number of Patients	Percentage
Complete cure	1	10%
Marked Relief	7	70%
Moderate Response	2	20%
Mild Improvement	0	0
No response	0	0

DISCUSSION

Parkinson’s disease is a degenerative disorder of the central nervous system characterized by tremor and impaired muscular co-ordination. According to Ayurvedic texts *Kampavata (Vepathu)* is considered as one of the disease provoked *Vata* due to *dhatukshay* and *avarana*.^[14] There are depletion of *rakta dhatu* and *avarana* of *prana*, *vyana* and *samana vayu*. In elderly, *apan vayu* get vitiated. *Basti chikitsa* is one of the best treatments for *vata vyadhi*. Oleation through *abhyanga* and *karma basti* is useful in pacifying *vata* and building *ojas* and also plays nourishing action on the nervous system.

Snehan karma stimulates the sensory nerve endings and provides strength to the muscles. *Mahamansha taila* alleviates the vitiated *vata dosha* by *vataghna*, *balya*, *preenana* and *brumhana* properties. *Swedan* enhance local microcirculation, by increasing the diameter and blood flow velocity of peripheral arterioles, delivering higher level of oxygen and nutrients to the injured cells. *Dashmool kwath Nadi sweda* are *ushna*, *vata-kaphahara guna*, which also help in relieving symptoms of Parkinson’s disease.

The drugs used in *Karma basti* includes *Kaunch beej* contains Levodopamine or L-dopa, precursor of dopamine. In addition it contains serotonin, 5 HTP, Nicotine it could potentially have psychedelic effects.^[15] *Ashwagandha* and *Mulethi* are included in *Medhya rasayana* group and scientific studies proved their role in neuroregeneration.^[16-17] There is depletion of *Rakta dhatu* in *Vatavyadhi* therefore to replenish *Kulthi* is added to it.^[18] *Yava* is strength promoting because it clarifies obstruction to channels of circulation or its specific action.^[19] *Pippali* scrapes toxic build up from cell walls, arteries and tissues to reduce excess body weight.^[20]

CONCLUSION

The clinical study presented suggests that the disability of Parkinson's disease can be lessened with early *Panchakarma therapy* as gains are made in musculo-skeleton flexibility, alignment and functional movements. The drugs used in this study are very effective, safe, easily available, cheap, good result yielding with no side and adverse effect. It also suggests that *Panchakarma therapy* offer a cure for Parkinson's disease and help to ease symptoms and make coping with disease easier. Patients with Parkinson's disease may often turn to *Panchakarma therapy* with the hope of improving their quality of life. Further studies using a rigorous scientific method are needed to determine the safety and efficacy of therapy.

References

1. Huges, A.J., Daniel, S.E., Kilford, L. And Lees, A.J. (1992) Accuracy of clinical diagnosis of idiopathic Parkinson's disease: a clinico-pathological study of 100 cases. *J Neurol Neurosurg Psychiatry* 55:181-184.
2. Fahn S. Description of Parkinson's disease as a clinical syndrome. *Ann.N.Y.Acad. Sci* 2003;991:1-14. [PubMed:12846969]
3. Rajput AH, Rozdilsky B, Rajput A. Accuracy of clinical diagnosis in Parkinsonism-A prospective study. *Can.J.Neurol.Sci* 1991;18:275-278 [PubMed:1913360]
4. Booij J, Tissingh G, Winogrodzka A, van Royen EA. (1999). Imaging of the dopaminergic neurotransmission system using single-proton emission tomography and positron emission tomography in patients with Parkinsonism. *Eur J Nucl Med*, 26:171-82.
5. Ng DC. (1996). Parkinson's disease. Diagnosis and treatment. *West J Med*. 165:234-240.
6. Olanow CW, Poewe, Levodopa in the treatment of Parkinson's disease. 2004 Sep; 19(9):997-1005
7. Charak Samhita with Ayurveda Dipika commentary by Charapanidatta, Chowkhamba Krishnadas Academy, 2nd edition, Varanasi, Sutra Sthana 20, Sloke no. 11, 2006
8. Madhavkara, Ed Dr. Brahmanand Tripathi; Madhava Nidanam with Madhukoshateeka; Chaukambha publications Vol. 1, Chapter. 22, P.551
9. Jain Shankarlalji, Vangasena Samhita, Vatavyadhi chapter, Khemraj Sri Krishnadas Publication, Mumbai, 1996.
10. Shastry RD editor, Basvarajiyam Basavraj. Chapter 6, Chawkhamba Sanskrit Series, Varanasi, 1987.
11. Charaka Samhita, with Ayurveda Dipika commentary by Chakrapanidatta, Chowkhamba Krishnadas Academy, 2nd edition, Varanasi. Chikitsa Sthana 28, 2006.
12. Kasture Haridas Shridhar, Ayurvediya Panchakarma Vidnyan, Baidyanath Ayurved Bhavan Ltd. Nagpur, 6th edition 1999: Karma Basti : 377.
13. UPDRS, Hoehn & Yahr, Scwab & England_SVUH_MedEI_tools, Scales in Parkinson's disease
14. Charaka Samhita, with Ayurveda Dipika commentary by Chakrapanidatta, Chowkhamba Krishnadas Academy, 2nd edition, Varanasi. Chikitsa Sthana 28, 201-204, 2006.
15. Sastri JLN, Study of Essential medicinal plants in Ayurveda. *Dravyaguna Vidnyan*. 2nd edition. Kapikacchu chapter, Chowkhambha publications, Varanasi.
16. Andrade C, Aswath A, Chaturvedi SK, Srinivasa M, Raguram R; A double blind, placebo-controlled evaluation of the anxiolytic efficacy of an ethanolic extract of *Withania somnifera*. *Indian J Psych.*, 2000; 42(3):295-301.
17. Chakravarthi K, Avadhani R; Nootropic action of *Glycyrrhiza glabra* root extract on the Dendritic Morphology of Hippocampal CA1 Neurons in one month old albino rats. *International Journal of Bioassay*, 2013, 2(5):783-788.
18. Chuneekar K, Pandey G. *Bhavprakashnighantu (Indian Materia Medica)* 638.
19. Rahul Jain, Praveen Raghuvanshi, Satish B Patil.Yava (Barley) – A key to the lifestyle disorders. *Ayurpharm Int J Ayur Alli Sci*. 2013;2(5):138-143.
20. Deepti Bisht, Sharma YK, Mehra BL. A clinical study to evaluate the efficacy of Pippali Rasayana in certain respiratory disorders. *Ayu-vol.30, No.3, 2009, 337-341.*

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