



## AYURVEDIC APPROACH TO MANAGEMENT STRATEGIES OF IDIOPATHIC PARKINSON'S DISEASE-CLINICIANS' PERSPECTIVE

### Research article

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### ABSTRACT

Parkinsonism describes the presence of extrapyramidal movement disturbances manifested by a combination of rigidity and bradykinesia with or without resting tremor. The disease is named after Dr. James Parkinson who was the first physician to describe the condition in 1817. He introduced the term “shaking palsy” and described that the affected individuals are having “involuntary tremulous motion with lessened muscular power”. The objective of the study is to explore the current management strategies of idiopathic Parkinson’s disease among ayurveda practitioners in Kerala and thereby generate a consensus on its management strategies using an In-depth interview & Delphi technique. Participants of the study were selected using purposive sampling methods, who were having more than 5 years of clinical experience in dealing with parkinsonian movement disorders. After literature review, an in-depth interview with 4 participants was conducted to obtain detailed information on respondent’s perspective on various aspects of this disease. The data obtained was then transcribed, translated and finally consensus statements were developed which was subjected to peer review among the expert academicians in the concerned field at government ayurveda college Tripunithura. Developed consensus statements were sent to 8 participants through Delphi technique. Common and conflicting points were shared with the same group of participants after each round of Delphi, until a consensus in opinions on ayurvedic management strategies of idiopathic Parkinson’s disease was generated. The developed management strategies are not a final word; the proposed study might be a stepping stone to develop a treatment modality for parkinsonian movement disorders.

**Keywords:** Parkinsonism, movement disorders, Delphi technique, purposive sampling, consensus, in-depth interview

### INTRODUCTION

Parkinson’s disease is the second most common neurodegenerative disorder characterized by loss of dopaminergic neurons in the substantia nigra pars-compacta and locus coeruleus. It is included in ICD 10, G20-G26 extra pyramidal movement disorders<sup>1</sup>. Direct reference of parkinsonian movement disorders in ancient ayurvedic literature is

sparse and refers only to related symptoms such as *kampa*(tremor), *sthamba* (rigidity), *cheshtasanga* (bradykinesia), & *gatisanga* (postural instability). The present study is done to explore the current management strategies of parkinsonian movement disorders among the ayurveda practitioners in Kerala and thereby generate a consensus on its clinical approach and management strategies.

### **Aim**

To streamline the various ayurvedic management strategies on parkinsonian movement disorders

### **Objectives**

1. To explore current management strategies of the patients with parkinsonian movement disorders approaching ayurvedic practitioners in Kerala using an in-depth interview
2. To generate consensus on ayurvedic management strategies of parkinsonian movement disorders using Delphi technique

**Study design:** Qualitative research

### **MATERIALS AND METHODS**

Participants of the study were selected using purposive sampling methods, who were having more than 5 years of clinical experience in dealing with parkinsonian movement disorders. Study centre was at the clinical settings of these participants & govt. Ayurveda college, Tripunithura, Kerala. The literature related to parkinsonian movement disorders dealt in ayurvedic classics were compiled, observed current management strategies followed by various clinicians and domains were identified. Then an in-depth interview was conducted using a face validated in-depth interview guide. The entire part of the in-depth interview was audio recorded and kept confidential. Recorded audio was transcribed word by word and translated, then contents were analysed based on a thematic analysis

process. From the transcribed data, codes generated and the data was categorized from the codes. From these categories consensus statements were developed. After the completion of in-depth interview, Delphi technique was conducted to get better clarity in certain areas and to get a consensus regarding the same. Common and conflicting points were aggregated and shared with the same group of participants through Delphi method, until a consensus in opinions was achieved.

### **OBSERVATIONS & RESULTS**

A detailed in-depth interview was conducted among 4 subject experts. The Purpose of this interview was to gather expert opinions regarding the ayurvedic management strategies of parkinsonian movement disorders. In-depth interview includes total 51 questions under 9 different domains like *nidana* (etiology), *samprapti* (pathophysiology) etc. The data obtained from the interview was transcribed, organized, analysed and statements were developed. Statements that need clarity were sent to 8 participants & Delphi method (round 1) was done. Responses were collected and analyzed using Likert scale 5 points. After 2 rounds of Delphi method, statements that got more than 80% agreement were fixed as consensus and management strategies for idiopathic Parkinson's disease were developed out of it which is detailed in the table follows:

**Table I: Schematic representation of management strategies for rigidity predominant idiopathic -Parkinson's disease**

Stage of treatment	Modalities of treatment			
	<i>Antaparimarjana chikitsa</i>		<i>Bahiparimarjana chikitsa</i>	
Stage 1	<i>Pachana &amp; anulomana</i>	<i>Gandarvahastadi kashaya</i> <i>Saptasaram kashaya</i> <i>Shaddharana churna</i>	<i>Bahya rukshana/ ruksha sweda</i>	<i>Udvaartana</i> <i>Udgharshana</i> <i>Dhanyamla dhara</i> <i>Churna pinda sweda</i>
	<i>Samana kashaya/ Vyadhi vipareeta drug</i>	<i>Ashtavargam kashaya/ balakulatha sahacharadi kashaya/vata gajankusa rasa/ parasika yavani churna</i>		
Stage 2	<i>Samana kashaya</i>	<i>Ashtavargam kashaya</i> <i>Nayopayam kashaya</i>	<i>Abhyanga &amp; ooshma sweda</i>	<i>Chinchadi taila/ Parinithakeriksheera taila</i>
	<i>Sodhanapurva achasnehapana</i>	<i>Guggulutiktaka ghrita/ sahacharadi taila</i>		
Stage 3	<i>Sodhana</i>	<i>Vamana with madanaphala kashaya</i> <i>Virechana with gandarpa eranda or sukumara eranda</i> <i>Sodhana nasya with nimbasava</i> <i>Erandamooladi yogavasti</i>		
Stage 4	<i>Samana kashaya</i>	<i>Sahacharadi kashaya</i> <i>Maharasnadi kashaya</i>	<i>Pinda sweda</i>	<i>Jambeera pinda sweda</i> <i>Churna pinda sweda (snigda)</i>
	<i>Vyadhi vipareeta drug</i>	<i>Vata gajankusa rasa</i> <i>Aswaganda churna</i>	<i>Pratimarsa nasya</i>	<i>Anutaila</i> <i>Maharajaprasarani taila (mridupaka)</i>
Stage 5	<i>Sodhana</i>	<i>Virechana with erandataila/ sukumara eranda</i>		
Stage 6	<i>Samana kashaya</i>	<i>Badradarvadi kashaya</i> <i>Maharasnadi kashaya</i>	<i>Pizhinj thadaval</i>	<i>Mashasaindavadi taila</i>
			<i>Sirodhara</i>	<i>Dhanvantara taila</i>
Stage 7	<i>Sodhana</i>	<i>Virechana with eranda taila</i>		
Stage 8	<i>Niruha vasti</i>	<i>Mustadi rajayapana vasti/ vrishya vasti</i>		
Stage 9	<i>Samana kashaya</i>	<i>Mashatmaguptadi kashaya</i>	<i>Sirodhara/ siropichu</i>	<i>Mahanarayana taila</i>
	<i>Samana arishta</i>	<i>Aswagandarishtam</i>		<i>Ksheerabala taila</i>

	<b>Samana Sneha</b>	<i>Balarishtam Sahacharadi taila 21(A) Dhanwantaram taila 101(A)</i>	<b>Dhmana nasya Brimhana nasya</b>	<i>Nasika churna Maharaja prasarani taila</i>
<b>Stage 10</b>	<b>Rasayana</b>	<i>Chitraka rasayana</i>		

**Table II: schematic representation of management strategies for tremor predominant Parkinson's disease**

Stage of treatment	Modalities of treatment			
	<i>Antaparimarjana chikitsa</i>		<i>Bahiparimarjana chikitsa</i>	
<b>Stage 1</b>	<b>Deepana pachana anulomana kashaya</b>	<i>Gandarvahasthadi kashaya, Sapthasaram kashaya</i>	<i>Kashayadhara Dhanyamladhara</i>	
	<b>Churna</b>	<i>Hinguvachadi churna /Ashtachurna</i>		
	<b>Samana kashaya</b>	<i>Dhanadanayanadi kashaya/ ashtavargam Kashaya/ Aswagandha bala gokshuradi kashaya</i>		
	<b>Vyadhi vipareetha drug</b>	<i>Brihat vatachintamani rasa / kapikachu churna/ masha churna/ jeevaneeya gana churna</i>		
<b>Stage 2</b>	<b>Samana kashaya</b>	<i>Dhanadanayanadi kashaya Sahacharadi kashaya</i>	<b>Abyanga + ooshma sweda</b> <i>Parinithakeri ksheera taila/ mashasaindava taila</i>	
	<b>Vyadhi vipareetha drug Sodhanapurva acha snehapana</b>	<i>Kapikachu churna/ masha churna/ Jivaniya gana churna Rasnadasamoola ghrita/ dadimadi ghrita/ mahamasha taila/ sahacharadi taila</i>		
<b>Stage 3</b>	<b>Sodhana</b>	<i>Vamana with madanaphala kashaya Virechana with gandarva eranda or sukumara eranda Sodhana nasya with nimbasava / anutaila Erandamooladi yogavasthi</i>		
<b>Stage 4</b>	<b>Samana kashaya</b>	<i>Sahacharadi kashaya Maharasnadi kashaya</i>	<b>Patrapotala sweda</b>	<i>Shatahwadi taila Sahacharadi taila</i>
	<b>Samana Sneha Vyadhi vipareetha drug</b>	<i>Rasnadasamoola ghrita/ varuni taila/ nakula taila mahamasha taila Brihat vatachinthamani rasa/ kapikachu churna/ masha churna/ jeevaneeya gana churna</i>		
<b>Stage 5</b>	<b>Sodhana</b>	<i>Virechana with eranda taila or sukumara eranda</i>		

<b>Stage 6</b>	<b>Samana kashaya Vyadhi vipareetha drug &amp; naimithika rasayana</b>	<i>Mashatmaguptadi ksheera kashaya Brihat vata chinthamani rasa, Kapikachu churna Masha churna, Jeevaneeya gana churna</i>	<b>Navadhanya kizhi/ Shashtika shali pinda sweda</b>	<i>Sahacharadi taila Kethakimooladi taila</i>
			<b>Kayaseka</b>	<i>Sahacharadi taila Kethakimooladi taila</i>
<b>stage 7</b>	<b>Vasthi</b>	<i>Kampahara vasthi / musthadi rajayapana vasthi</i>		
<b>stage 8</b>	<b>Samana kashaya</b>	<i>Vidaryadi kashaya Maharasnadi kashaya</i>	<b>Shirodhara</b>	<i>Dhanwantaram taila Ksheerabala taila</i>
	<b>Arishta</b>	<i>Aswagandharishta</i>		
	<b>Vyadhi vipareetha drug</b>	<i>Brihat vata chinthamani rasa + swarna bhasma / abhraka bhasama</i>	<b>Marsha nasya</b>	<i>Rasnadasamoola ghrita manda/ kapikachu ksheerapakam (nasapanam)</i>
<b>stage 9</b>	<b>Rasayana</b>	<i>Aswagandha rasayana/ amalaki rasayana/ chyavana-prasa/ nagabalamoolatwak rasayana</i>		

**DISCUSSION:** For idiopathic Parkinson's disease, different strategies should be followed for tremor predominant as well as rigidity dominant Parkinson's disease. Rigidity dominant Parkinson's disease (*sthambha pradhana*) is more *kapha* dominant hence *ushna-ruksha* and *langhana* (*attenuation* therapy) line of management will give *upasaya* (alleviating). *Sheeta guna* is always *anupasaya* (aggravating) since it aggravates *vata kapha dosha*. *Gandarvahastadi kashaya*<sup>2</sup> is a formulation having *tiktha katu kashaya rasa pradhana*, *ushna veerya* and it is best to impart *apana vatanulomana* (normalization of movement of *apana vata*) and *agni deepana* (stimulating digestion) in initial stages. Bradykinesia even affects the peristaltic movement of intestine thereby patients present chronic constipation as *poorva roopa* (prodromal symptoms) and *rupa* (signs). If the patients

present more *pakwashayagata vata* symptoms, the best drug of choice is *sapthasaram kashaya* which is *gulma hara & vridhi hara*. *Shaddharana churna* explained in *vatavyadhi prakarana* having *katu tikta rasa*, *ushna veerya* and *kaphaharatva* property will be helpful for *ama pachana* (toxin removal) in initial phases. After attaining proper *deepana*, *pachana* and *vatanulomanatva* it is better to give *samana kashayas* (pacifying) like *ashtavargam kashaya*, *balakulatha sahacharadi kashaya* etc. *Parasika yavani churna*<sup>3</sup> is having *katu thikta rasa*, *ushna veerya* and *madaka* (narcotic), *soolaprasamana* (analgesic) and *nidrajanaka* (hypnotic) properties. *Vatagajankusa rasa* is *ushna pradhana* drug, thereby it acts as *avarana ghna* (removal of dosha obstruction). Along with first stage *deepana pachana kashayas* internally, external *kriyas* like *udwarthana* (powder massage) *utgharshana*,

*dhanyamla dhara* or *churna pinda sweda* etc. can be done

*Abhyanga* (oleation) with *taila* having more *kapha vata samana* property can be used from the second stage onwards. *Parinithakeriksheera taila* or *chinchadi taila* which are processed with *amla lavana pradhana dravyas* and are *ushna, teekshna* and *kapha vata hara* in nature can be used for *abyanga*. *Vamana* (emesis) is best to impart *uthamanga dosha nirharanatva, kapha avaranagna* and it is clinically experienced by expertise that improvement of rigidity (by drawing Archimedes spiral diagram before and after the procedure of *vamana*) is seen after first sitting of *vamana* itself. After *vamana*, *sodhana* procedures like *virechana* (purgation), *sodhana nasya* (errhine therapy) and *sodhana vasthi* (enema) can be done. The selection of drugs for *sodhana* can be based on *vaidya yukti*. *Virechana* is one among the main treatment modality in Parkinson's disease, as the disease itself demands *nitya anulomana* and *erandataila* is the best drug of choice for imparting *mridu sodhana* for long-term purpose.

After the initial *sodhana, taila* and *ghrita* can be used internally along with above said *kashayas* as *anupana dravyas*. As *taila* and *ghrita* are lipid medium, it can cross blood brain barrier more easily and can result in reducing the rate of progression of the disease. From stage four onwards *samana kashayas* with *brimhana property* like *maharasnadi kashaya, aswagandha bala gokshuradi kashaya* can be given. After *sneha, sweda, sodhana* and *peyadikrama, pinda sweda* is opted as external procedures. *Jambeera pinda sweda* offers a better *kapha shamanatva*

and *avaranaharatva* due to its presence of *ushnaveerya* and *kaphahara* drugs.

Being a *vatavyadhi, vasthi* has got the prime role. The main aim of *niruha vasthi* in stage eight is to impart *dosha shamanatva*. So, *mustadi rajayapana vasthi* is selected. All *vrishya oushadhas* has a direct action in limbic system. Extra pyramidal structures have close relation with limbic system, so that they can increase the dopamine surge. Therefore, *vrishya vasthis*<sup>4</sup> are also commonly practicing in the management of Parkinson's disease. *Nasya* always have an excellent result in neurological disorders since it is the easiest way to impart active principles to the site of pathology than other *panchakarma* modalities. We can do *marsha nasya* with *ghrita, taila* or *ksheerapakas* after 3 days of *teekshna nasya*. In rigidity predominant Parkinson's disease *dhmana nasya* can be done as *theekshna nasya*.

*Rasayana chikitsa* (rejuvenation therapy) is very important in the treatment and prevention of Parkinson's disease. Those with family history of parkinsonism can adopt early *rasayana chikitsa* in order to prevent it in the late age.

For tremor dominant (*kampa pradhana*) Parkinson's disease, *ushna- snigdha* and *brimhana* (nutritive therapy) line of management will give *upasay*. *Kapikachu churna, masha churna* or *jeevaneeya gana churna* can be used in tremor dominant Parkinson's disease. All these are having *brimhana swabhava* in nature. "*Brimhyasthu mridu langhayeth*"<sup>5</sup> should be kept in mind while we treat a tremor Parkinson's disease patient and hence mild *langhana* is advised here. So, there is no



need of *teevra ruksha swabhava* medications for both internal as well as external procedures. *Parinithakeri ksheera taila* or *mashasaindava taila* itself is sufficient for *abhyanga* and *ooshma sweda* procedures. Tremor dominant Parkinson's disease more concentrate on *vata dosha*, hence more *snigdatwa* is needed for *vyadhi samana* purpose. Stiffness or joint pain may be seen as a complication of bradykinesia in tremor or rigidity predominant Parkinson's disease patients. As it is an *asthi asritha vata* predominant condition *ketakimooladi taila* can be used for all procedures as the *yoga* is "*marutam asthigatam vinihanti*".

*Kampahara vasthi* is added in stage 7 for tremor predominant Parkinson's disease. It is specially formulated by adding *kampahara* drugs such as *aswaganda*, *bala*, *kapikachu* and *yashtimadhu* as *kalka* as well as *ksheerakashaya* for curing tremor in patients. For *nasya*, all *ghrita mandas* can be used especially those having action in *uthamanga vyadhis*. Among that *rasnadasamoola ghrita manda* is more effective for tremor dominant Parkinson's disease. We can use *medya rasayana* like *shankhupushpi kalka*, *guduchi churna*, *yashtimadhu churna* and *mandukaparni swarasa* Parkinson's patients with cognitive deficits.

**CONCLUSION:** The present study aims to generate a consensus on ayurvedic management strategies for idiopathic Parkinson's disease. Based on the findings of in-depth interview and Delphi methods, detailed ayurvedic management strategies for rigidity dominant & tremor dominant idiopathic Parkinson's disease were developed. It was found very difficult to complete the study during the speculated

time period and to get a complete consensus on management regarding the same among ayurvedic physicians based on these methodologies.

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