



Research Article

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A CROSS SECTIONAL SURVEY ON THE PRACTICE OF RASAYANA DRUGS IN NEURO DEGENERATIVE CONDITIONS

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Received on: 07/01/17 Accepted on: 21/02/17

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DOI: 10.7897/2277-4343.08136

ABSTRACT

Neuro degenerative disorders are major challenges to clinicians all the time. High profile technological and pharmacological advances unfortunately failed to meet the needs of the patients with Neuro degenerative conditions. So as a strong alternative system patients are approaching Ayurvedic clinicians most of the time. The prevalence of patients with Neuro degenerative conditions in Ayurvedic college hospital wards are surprising. The present study was an observational study conducted among the faculties of Department of Kayachikitsa and Roga nidanam of Government and aided Ayurveda colleges across Kerala to assess the modus operandi of treating Neurodegenerative diseases (NDDs) with rasayana drugs. Structured study questionnaire with patient selection, drug, its administration, complication, pathyapathya followed during the rasayana therapy and cost of the therapy as the domains was the study tool in the study. Open and closed ended questions were generated to collect the data. Data collection was done through email. Twenty faculties participated. The data revealed that Parkinson's disease and Motor Neuron Disease are the NDDs commonly approaching our OPD- IPD set up. Patients approach with a clear-cut diagnosis and if needed investigations are done. Faculties of these colleges are using both herbal and herbo-mineral rasayanas like kapikachu (*Mucuna pruriens*), lasuna (*Allium sativum*), chitraka (*Plumbago zeylanica*), shilajatu, bhallataka (*Semicarpus anacardium*) and medhyarasayana. Complications are seen during and after the course of administration of these drugs which are managed accordingly. Pathyapathya are followed as per the classics. Study concluded with the outcome that NDDs are treated by Ayurvedic physicians in a better way with rasayanas.

Key words: Neuro degenerative disorders, rasayana drugs, Kayachikitsa, Roganidanam.

INTRODUCTION

Neuro degenerative disorders (NDDs) are major challenges to clinicians all the time. Neuro degenerative diseases result from the gradual and progressive loss of neural cells, leading to nervous system dysfunction. The degeneration is the result of the death of cells, whether due to direct cell death by necrosis or the delayed process of apoptosis.¹ Immune activation within the central nervous system (CNS) is a classical feature of ischemia, neurodegenerative diseases, immune-mediated disorders, infections and trauma; and often may contribute to neuronal damage.² Even the high profile technological and pharmacological advances unfortunately failed to meet the needs of the patients with Neuro degenerative conditions. As a strong alternative system patients are approaching Ayurvedic clinicians most of the time.

Rasayana is one of the eight branches of Ayurveda which refers to rejuvenative therapy and immunomodulation. Rasayana herbs have many targets and activities and are effective in treatment of diseases, especially for ageing, autoimmune and metabolic diseases. It has also been reported that Rasayanas have immunomodulatory and antioxidant functions.³ In our observations, most of the time the mainstream clinicians, advocates rasayana drugs in the management of neuro degenerative conditions. But no studies were conducted till now regarding the practice of rasayana therapy in these conditions by the clinicians. So as a matter of interest, to have some primary information, an observational study was conducted among the faculties of Department of Kayachikitsa and Roga nidanam of Government and aided Ayurveda colleges across Kerala.

MATERIALS AND METHODS

Objective of the study: To study the practice of Rasayana drugs in Neuro degenerative disorders among the Faculties of Department of Kayachikitsa and Department of Roga Nidanam of Government and Aided Colleges of Kerala.

Sample: Expert group comprising of Professors, Associate Professors and Asst. Professors of Department of Kayachikitsa and Department of Roga Nidanam of Government and Aided Colleges of Kerala.

Research Design: The present study was an observational survey among the Faculties of Department of Kayachikitsa and Department of Roga Nidanam of Government and Aided Ayurveda Colleges of Kerala. Thirty participants were selected for the study. Structured study questionnaire with Various domains including selection of the patient, drug, its administration, complication, pathyapathyas followed during the rasayana therapy and cost of the therapy was prepared in this study for collecting the data. Data collection was done through email. The data was collected, sorted, categorised and analysed to make conclusions.

Ethical Concern

The present study was carried out in accordance with ethical principles by following International Conference of Harmonization- Good Clinical Practices Guidelines (ICH-GCP).

OBSERVATIONS AND RESULTS

The questionnaire was sent to thirty participants across the colleges, 20 of them responded. The observations could be grouped under the following domains;

Selection and preparation of the patient for administration of rasayana drugs

It was observed that 20 out of the 20 participants see Parkinson's disease and Motor neuron disease in their OPD- IPD set up. Ataxia is the next common disease i.e., 17 of them see such cases. Diseases which are least seen in Ayurveda Colleges include Hereditary Sensory Motor Neuropathy, Multi System Atrophy and Supra nuclear palsy. Diagnosis is made by proper history taking, clinical examinations and investigations by all participants.

Answering to the question that what investigations they would suggest for diagnosing an NDD, 10 of them said that the patient approached them with a clear-cut diagnosis. Others suggested investigations like MRI Brain and Spinal Cord and CT Brain, NCV studies, Biopsies and laboratory investigations like Biological markers, CK levels, VDRL, and CBC.

Opining on the general measures advised before the administration of rasayanas, 13 out of twenty did agnideepana, followed by snehana, swedana and shodhana. One participant advised nasya for sirasodhana, vasti – both anuvasana & nirooha and moordhataila along with shodhana, prior to rasayana administration. One of them opined that rogabala should be assured before the therapy.

Answering to what are the conditions of patients whom they do not opt for rasayana therapy, 11 of them said that critically ill patients should be avoided from rasayana therapy. Two of them pointed out old age as the reason. One stood for association of risk factors, another participant for dose resistance and yet another for patient willingness as the reason. One rejected conditions like late stages of MND and pseudobulbar palsy. One of them spoke as -None is unfit for rasayana, there may be contraindication for kutipravesika rasayana, but vatatapika can be done by selecting suitable drug.

Drug

5 out of twenty of the faculty prescribed rasayana aushadhi at the beginning of the treatment whereas 8 of them at the end and 9 followed conventional protocol. 12 out of 20 faculties used herbal drugs as rasayanas, whereas 10 of them used herbo mineral and

only one used mineral drug as rasayana aushadhi. A drug for rasayana therapy was selected on the basis of various components of rogi pareeksha was the opinion of 6 experts who participated in the study. Six of them selected drug based on samprapti visheshas of the disease. Four of them said they choose the drug based on clinical symptoms. Two participants opined that therapeutic indications prescribed in particular rasayana yoga, proven pharmacological action and site of action of rasayana dravyas are the basis for selecting the drugs. One member pointed out that academic interest and his experience chooses the drug in a specific condition.

Rasayana drug for specific disease

Twelve out of twenty prescribe Atmagupta (*Mucuna pruriens*)⁴ as rasayana in conditions of Parkinson's disease.

Bhallataka (*Semecarpus anacardium*)⁵ is prescribed by 7 of the experts in ataxia.

In conditions of Motor neuron disease, ten out of twenty prescribe lasuna (*Allium sativum*)⁶, whereas eight each of the participants administered lasuna (*Allium sativum*), and bhallataka (*Semecarpus anacardium*).

Medhya rasayana are used in Alzheimer's disease by ten of the experts. Triphala is also used by nine of them.

In Multiple system atrophy, five out of twenty prescribed Medhya rasayana.

Ksheerabala (satapaakam) is used by seven of the participants in Dystonia.

Five of the twenty used lasuna (*Allium sativum*) as the rasayana in Progressive supra nuclear palsy. Four each of them have prescribed Ksheerabala (satapaakam) and chitraka (*Plumbago zeylanica*)⁷

for patients diagnosed as spinal muscular atrophy.

Rasayanas like rasna dasamoolaghruta, mashatmaguptadi ksheerakashaya, dhanwantharam tailam etc. are prescribed in conditions of Hereditary sensorimotor neuropathies. Four of the twenty participants advised rajayapana vasti as a rasayana to be done in condition of NDD.

19 of the practitioners collected the rasayana drugs from local markets. 2 advised patients to buy from marketing companies. None of them has own cultivation of rasayana drugs.

Administration of rasayana drugs

The kalpana of administration is chosen based on the drug of choice and condition of the patient was the opinion of one expert. 12 out of twenty administered rasayana in the form of swarasa, 10 as kalka, 11 as choorna, 11 as ghrutam, 14 as ksheerapaka and one as tailam. One of them used avaleha and bhasma as the kalpana for administration.

Table 1: Doses and duration prescribed for each rasayana

Rasayana aushadhi	Minimum dose	Maximum dose	Duration
Chitraka (<i>Plumbago zeylanica</i>)	3-6 gm as choorna	3-6 gm as choorna	14 days
Shilajatu	15-20 gm with vyadhipratyaneeka kashaya	15-20 gm with vyadhipratyaneeka kashaya	21 days to one month
Lasuna (<i>Allium sativum</i>)	5 ml as swarasa	45ml	7 or 14 or 21 days
Rasnadasamoola ghruta	5-50 gm	5-50 gm	
Ksheerabala (satapaakam)	15 drops	15 drops	
Mandookaparni swarasa	10-24 ml	10-24 ml	
Pippali (<i>Piper longum</i>)	3 gm	3 gm	
Suvarna bhasma	25-50 mg /day		
Nagabala (<i>Sida veronicaefolia</i>)			21 days
Bala (<i>Sida cordifolia</i>), Aswagandha (<i>Withania somnifera</i>), Kapikachu (<i>Mucuna pruriens</i>) and Kurasani (<i>Hyoscyamus niger</i>)			1 month

Dose and duration of rasayana drugs

Five of them considered textual references to decide the duration of administration of rasayana. Those rasayanas for which duration is not specified, will be administered for 1 month including bhasma preparations opined one of the experts. After that if needed, will be continued after a break/washout period of 1 month. Generally, 2 weeks are chosen for administration said one of the participants. Four of them said an average of 21 days is opted for all rasayanas.

Opining about the repeated course of rasayana therapy, 10 advocated repeated therapy, while 5 did not.

Outcome

Six of them said they obtained satisfactory results on administration of rasayana drugs. One said there was no any satisfactory result.

The results of rasayana therapy are sustained for about six months opined five of the twenty, six months to one year by four of them. Five of them says that the results are sustained for more than many years in few cases. Most of the time due to inadequate follow up, it is difficult to observe the patient's health progress.

In conditions like Parkinson's disease the results are sustained says five of the experts. One participant each says that Hereditary Sensory Motor Neuropathy, Motor Neuron Disease, Ataxia, dementia and supra nuclear palsy show sustained results.

12 experts got follow up of patients after rasayana administration and five of them did not.

According to 15 faculties who participated in this survey, the rasayana drugs are capable of improving the Quality of Life and enhancing the life expectancy of patients having NDDs.

Complication

14 of the twenty-observed complication during the administration of rasayana drugs, while the rest did not. One observed that the condition got worse during the drug administration.

7 of them observed complication after the administration of rasayana whereas 11 did not. Two of them have not responded to the question. Fourteen of them observed short term complications.

Complication and management

Seven of the experts have observed burning sensation during the administration of lasuna and two of them chose virechana and administration of yashti 3gm with triphala choorna 15 gm while the others managed the condition symptomatically. Hypersensitivity towards bhallataka (*Semecarpus anacardium*) was noticed by four of the practitioners, where one of them did virechana with Avipathy choorna, prescribed Dooshivishari gutika internally and Triphala kashaya for kshalana while others managed it symptomatically. Atisara was observed as a complication on administration of swetasanghapushpi by one expert and conservative management was done. While administration of shilajatu, edema and itching were observed by one member each and one stopped the rasayana seva and managed accordingly while the other increased the dose of adjuvant like taila and ksheera respectively. Burning sensation of stomach was observed on administration of chitraka (*Plumbago zeylanica*) by two of them and they both did virechana in this condition.

Pathyapathya

11 of the twenty practitioners advised Pathyapathya as per the text. Four of them advocated that- guru, vidahi ahara and three of them said that curd, cold diet, katu, amla ahara and non –

vegetarian should be avoided. Strict vegetarian diet should be followed suggested one expert.

Eleven of them advocated to follow textual regimes as prescribed by our Acharyas. One each advised stress free lifestyle, emotional control and proper rest. Four of them advocated to avoid heavy exercise, sunlight, and exposure to cold. Practice of dhyana or prarthana is advised by one of them. One of the participant said that regimens like snehapana vidhi should be followed.

Nine of the faculty advise the patients to restrict their food and regimen to the duration equal to rasayana seva after the course. Four opine that the restriction ought to be thrice the duration of rasayana seva. One said that the patient need to restrict his food and regimen till the treatment finishes

Cost

Cost of the therapy depend on the drug chosen and its market value was the opinion of eight of the participants. Its dose and duration decide the cost of one therapy was the opinion of one expert. Nine experts pointed out triphala as the cost effective rasayana. Nine others concluded mandookaparni (*Centella asiatica*)⁸ as the cost effective one. Lasuna was enlisted as the cost effective rasayana by eight faculties. Three said medhyarasayana to be so.

CONCLUSION

Even with high profile technological and pharmacological advances in modern medicine, patients approach Ayurvedic institutions to seek treatment. Data of the present study revealed that all the participants are practicing rasayana in Neuro degenerative conditions. There is no agreement among participants in the use of a rasayana in particular clinical condition. Almost all rasayana are used accordingly with individual clinician's decision. Administration of rasayana drugs evoke marked complications and hence require awareness and practice of pharmacovigilance. Application of rasayana should be done carefully to avoid complications.

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Cite this article as:

Devipriya Soman, N. Subhash Babu. A cross sectional survey on the practice of Rasayana drugs in neuro degenerative conditions. Int. J. Res. Ayurveda Pharm. 2017;8(Suppl 1):44-47 <http://dx.doi.org/10.7897/2277-4343.08136>

Source of support: Nil, Conflict of interest: None Declared

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