

EFFICACY STUDY OF *BRAHMYADI YOGA* IN THE MANAGEMENT OF ALZHEIMER'S DISEASE (*SMRITI BHRAMSHA*)

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ABSTRACT

The management for Alzheimer's Disease (*smrithibhramsha*) has been dealt in the form of external and internal medicaments; along with proper medication and good environment one can maintain his memory and health. Aim of the study was to evaluate the effect of *Brahmyadi yoga* in the management of Dementia (*Smriti Bhramsha*). 32 patients who fulfill the criteria for inclusion for memory impairment were selected. 4g of *Brahmyadi yoga* was administered twice a day after food with warm water for 1 month. Follow up was done at an interval of 30 days for the period of 3 months. After 3 months of treatment statistically highly significant improvement was seen in memory, orientation, judgment, community affairs. Home hobbies, personal care showed high significance as per standard clinical dementia rating scale.

Keywords: Alzheimer's disease, *Smritibhramsha*

INTRODUCTION

Alzheimer's disease is a chronic or persistent disorder of behavior and higher intellectual function due to organic brain disease. It is marked by memory disorder, changes in personality, deterioration in personal care, impaired reasoning ability and disorientation. Dementia originally meant "out of one's mind", from the Latin *de* (out of) and *mens* (the mind). Early in the nineteenth century, Esquirol¹ gave a succinct definition of dementia as a cerebral affection characterized by a weakening of the sensibility, understanding, and will (cited by Caine et al²). The term "senile dementia of the Alzheimer type" (SDAT) is used to describe elderly cases with Alzheimer brain changes based on the Clinical Descriptions and Diagnostic Guidelines of the ICD-10.³ Alzheimer's dementia has characteristic

neuro-pathological and neuro-chemical features. It is usually insidious in onset and develops slowly but steadily over a period of years. The onset can be in middle adult life or even earlier (AD with early onset), but the incidence is higher in later life (AD with late onset). The statistical meta-analyses using logistic model shows that the odds of having Alzheimer's dementia increase by 18% for every year of age.⁴ The dementias are progressive disorders. The four known risk factors for Alzheimer's dementia are age, family history of dementia, Down's syndrome, and apoE ε4 genotype. An individual can lead a normal happy life only if he has a sound intellectual capacity with a good memory. Any impairment to his/her memory will have a direct destructive effect on the quality of his living standards, thus this condition has been chosen for the

present study. *Ayurveda* describes these diseases under 'Jara vyadhi'. *Smriti Nasha* is mentioned in the context of 'Vardhakya Janya Vikaras'. In old age people they will lose *Grahana*, *Dharana*, and *Smarana* because there is gradual diminution in the qualities of *dhatu*s and dominance of *Vata* during this age.⁵ *Smriti Bhramsha* in the context of *Vayas*. Age after seventy years is called *Vardhakya*.

Brahmi is useful for improving mental clarity, confidence and memory recall. According to *Ayurveda*, it is *tikta*, *katu*, *madhura vipaka*, *vamaka* and *virecaka*.⁷ *Mandookaparni* is mildly anti bacterial, anti-viral, anti inflammatory, anti-ulcerogenic, anxiolytic, a circulatory stimulant, a diuretic and nervine.⁸ In addition, preliminary evidence suggests that it may have nootropic effects.⁹ It is used to re-vitalize the brain and nervous system. It is *Tikta*, *Laghu*, *Shita*, *Rasayanam*, *medhyam*, *mutra Virecana*.¹⁰ *Shankhpushpi*'s nootropic and memory-enhancing properties. *Charaka* explained *shankhpushpi* as the best example for *Medhya Rasayana*. All these 3 drugs are "Medhya" and act to improve memory and intellectual capacity. Hence these drugs were selected for the study.

AIMS AND OBJECTIVES

To evaluate the effect of *Brahmyadi yoga* in the management of Dementia

METHODOLOGY

Source of data: 32 patients of Alzheimer's disease were selected from the OPD and IPD of Manasa Roga of the SDM College of Ayurveda and Hospital, Hassan.

Method of Collection of Data: 32 patients who fulfill the criteria for inclusion for memory impairment were selected. 4g of *Brahmyadi yoga* was administered twice a day after food with warm water for 1 month.

After completion of the treatment the patients' follow – up was done at an interval of 30 days for a period of 3 months.

Criteria for diagnosis: Detail medical history was taken and physical examination was done according to both Modern and *Ayurvedic* clinical methods. A detailed interview was conducted to elucidate sleep problems, social problems and other areas of functioning etc. To assess the psychological intactness, mental status examination was carried out. To exclude other medical disorders routine haematological and urine investigations were carried out. A special proforma was prepared with gradation of symptoms and scoring was done by adopting Standard Dementia Rating Scale.

Inclusion criteria: Age group of 45 – 75 yrs and mild type of dementia as per clinical dementia rating.

Exclusion criteria: Diabetes Mellitus, Endocrinal Dysfunction, Dementia due to trauma, Cerebro vascular disease, Parkinson's disease, Brain tumor, Subdural hematoma

Plan of Study: 4g of *Brahmyadi yoga* was administered twice a day after food with warm water for 1 month.

Criteria of Assessment: Improvement in signs and symptoms was assessed according to the standard Dementia rating scale. The Clinical Dementia Rating is a five-point scale in which CDR-0 connotes no cognitive impairment, and then the remaining four points are for various stages of dementia:

- CDR-0.5 = very mild dementia
- CDR-1 = mild
- CDR-2 = moderate
- CDR-3 = severe

The CDR is constructed over the six domains viz. Memory, Orientation,

Judgment and Problem solving, Community Affairs, Home and Hobbies, and Personal Care. In rating each of these domains, the assessment is made on the patient's cognitive ability to function in these areas.

OBSERVATIONS

32 patients of Alzheimer's dementia were treated in single group out of which 2 patients drop out and total 30 patients completed the study plan. Demographical observations made in study are:

Age: Maximum number i.e. 34.37% of the patients were in the age group of 45-55 yrs, Sex: number shows that maximum i.e. 53.12% of total patients were males, Religion: 87.5% belonged to the Hindu community, Educational status: maximum number of patients i.e. 59.37% were Primary educated, Occupation: 40.62% patients of this study were house wives, Marital status: data shows that all the patients were married, Socio-Economic status: 68.75% patients of this series belonged to Middle class, Appetite: 71.87% patients had good appetite, Diet: shows that maximum of 62.5% patients were Non vegetarians, Addiction: 65.62% patients reported no addiction, Bowel habits: 71.87% patients had regular bowel, Micturition: 96.87% patients reported normal micturition, 81.25% of patients had disturbed sleep, 53.12% were having *Madhyama Koshta*, 68.75% of patients had *Vatakapha Prakriti*, 90.62% had *Rajas* predominant, 93.75%

patients had *Madhyama Sara*, 96.87% patients had *Madhyama Samhanana*, 93.75% had *Madhyama Pramana*, 68.75% had *Madhyama Abhayavaharana Shakti*, 62.5% patients had *Madhyama Jarana Shakti*, 56.25% patients had *Avara Satva*, 53.12% patients had *avara vyayayama shakti*, the patients of this series belonged to *sadharana desha* 62.5%, Majority of the patients i.e. 68.75% had chronicity of less than 1 year, among 32 patients all are having the impairment in memory either recent or past. 62.5% patients having decline in thinking, 59.37% complained of decline in planning. 50% of the patients complained of organizing difficulty. Decline in emotional control seen in 31.25% of patients. 65.62% patients have the complaint of declined motivation. Change in the social behavior shown 56.25% and irritability 28.12% respectively.

RESULTS

Effect of Brahmlyadi yoga: In this study 32 patients of Alzheimer's dementia (*Smriti Bhramsha*) were registered, out of which there were 2 drop outs and 30 patients completed the course of treatment. The effect of the drugs is described according to the respective symptoms. Reduction in the rating scale score after treatment shows the improvements in the patient's signs and symptoms as per the Standard Dementia Rating Scale.

TABLE 1: EFFECT OF BRAHMYADI YOGA AFTER TREATMENT ON ALZHEIMER'S DEMENTIA

SIGNS & SYMPTOMS	MEAN SCORE		% of relief	S.D (±)	S.E (±)	‘t’	‘p’	SIGNIFICANCE
	BT	AT						
Memory	1.531	0.843	79%	0.545	0.0964	15.81	<0.001	Significant
Orientation	1.546	0.937	93%	0.759	0.134	9.76	<0.001	Significant
Judgement	1.234	1.000	42%	1.150	0.203	3.69	<0.001	Significant
Community affairs	1.296	1.062	47%	1.210	0.213	3.69	<0.001	Significant
Home hobbies	1.390	1.062	62%	1.022	0.180	4.71	<0.001	Significant
Personal care	1.593	0.984	97%	0.734	0.129	9.76	<0.001	Significant

TABLE 2: OVERALL EFFECT OF BRAHMYADI YOGA

EFFECT	No. of Patients	Percentage
Complete remission	0	0%
Marked improvement	0	0%
Moderate improvement	7	23.3%
Mild improvement	14	46.6%
Unchanged	9	30%

DISCUSSION

The drug opted for the clinical study, fulfilled all the criteria to manage Alzheimer's dementia i.e *Medhya*, *Rasayana*, *Smriti Vardhaka* and *Sanjnashtapaka*. *Brahmyadi yoga* (*Brahmi*, *Shankhapushpi* and *Mandookaparni*) is an *Anubhutha yoga* having the above said properties. All the 3 drugs are having *Madhura vipaka* and *Medhya karma*. *Vipaka* is the property of drug and that can be understood only after the digestion of that particular drug and the modification or conversion of the taste that results after its contact with digestive fire.¹¹

According to *Ayurveda Smriti Bhramsha* is a *Vata* vitiated condition. In the vitiation of *vata*, *Madhura Vipaka Pradhana* drugs should be given that increases the *Kapha* and controls the vitiated *Vata* respectively. *Karmas* of *Kapha* are explained as *Stirata*, *snigdhatta*, *bala vardhaka*, *Buddhi shaktikara*. *Kapha* gives *Bala* and *Stirata* to body and mind, when it is in the *Prakrita Avasta*. *Avalambaka Kapha* is situated in the *Shiras* and having the control over the *Hrudaya*. *Smriti Bhramsha* is having a strong geriatric basis and occurs due to *Dhatu Kshaya*. As per *Ayurveda* in the geriatric condition *Dhatu Kshaya* occurs due to *Vata Prakopa* that will lead to the *Kshaya* of *Ojas*. *Shankhapushpi* is *Medhya* and having *Rasayana* effect. *Brahmi* is explained as *Buddhi Vardhaka*, *Prajna* and *Medhya*. The action of *Mandookaparni* is *Pittahara*. The combined

effect of above mentioned drugs lead to nourishment of *dhatu*s and *Ojo Vridhhi* and further lead to *vridhhi* of *smriti*, *buddhi* and *medha*. *Bacopa monnieri* having saponins and *triterpenoid bacosaponins* that confer antioxidant activity.¹² *Bacopa monnieri* was used to improve memory and cognitive function. *Bacopa monnieri* extracts have been investigated for their neuro pharmacological effects and their nootropic actions in the hippocampus.¹³ From *Convolvulus pluricaulis* (*Shankhapushpi*) triterpenoids, flavonol glycosides, anthocyanins, and steroids, have been isolated and may be responsible for *Shankhapushpi*'s nootropic and memory-enhancing properties in addition to other pharmacological activities.¹⁴ *Centella asiatica* showed highest free radical scavenging activity that can be attributed to the presence of polyphenols and flavonoids as this fraction contains maximum amount of these secondary metabolites. *Shankhapushpi* is Neuroprotective and intellect promoting activity implicated to free radical scavenging and antioxidant property.

CONCLUSION

Effect of *Brahmyadi yoga* on symptoms of Alzheimer's dementia (*Smriti Bhramsha*) after 3 months of treatment by using the Dementia Rating Scale for Assessment gives the data as Memory showed 79 % improvement with p value <0.0001, improvement of 93% in Orientation, 42% in Judgment, Community Affairs showed 47% improvement with p

value <0.001, Home hobbies showed 62% improvement with high significant statistical value with p value <0.001, improvements of 97% in Personal care with p value <0.001.

Overall effect of *Brahmyadi yoga* on 30 patients of Alzheimer's dementia showed 46.6% of Mild improvement, 23.3% of Moderate improvement, 30% of No improvement. Ageing is a natural unavoidable phenomenon which also results in progressive memory impairment, which makes conditions like Alzheimer's dementia more pathetic and difficult to treat, making the individual even more vulnerable. So a longer duration of treatment along with a good family support may provide some solace to the individual.

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