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AN EVALUATION OF MADHUTAILYADHIYA YAPANA VASTI IN MANAGEMENT OF CEREBRAL PALSY W.S.R TO SPASTIC C.P

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ABSTRACT

Background: Cerebral palsy (C.P) is a non-progressive, but crippling neurological disorder of children with predominant motor disability, and postural and coordination disturbances, resulting from a prenatal perinatal or post-natal insult to the developing brain. There are 25 lakh cerebral palsy-affected children in india. **Aim**: To assess the Evaluation of Madhutailyadhya yapana vasti in the management of cerebral palsy w.s.r to spastic C.P **Materials& Methods:** A total of 50 children satisfying diagnostic criteria and between the age group of 2-10yrs were included and randomly divided into two groups. Then Group A was subjected to Madhutailyadhya yapana vasti and another Group was subjected to vasti with the C.P formula which was practiced in past years in S.V Ayurvedic hospital, Tirupati, A.P. **Result:** The results obtained after statistical analysis using paired "t" test in each group basing on subjective& objective parameters. Comparisons of both groups were done by using the Unpaired" t" test and it was assessed as mild, moderate, maximum &no improvement on basis of improvement criteria.

Key words: Cerebral palsy (C.P), Madhutailyadhya yapana vasti.

INTRODUCTION

Cerebral Palsy has been described as a group of disorders of the development of movement and posture causing activity limitations that are attributed to non-progressive disturbances that occurred in the

developing foetal or infant brain. It includes a group of heterogenous clinical states of variable etiology and severity ranging from minor motor incapacitation to total handicap. The spastic type of Cerebral Palsy is by far the most common type of overall cerebral palsy[1]. As all most all neurological disorders are identified with the derangement of *Vata* and considering the clinical features of Cerebral palsy, it can be correlated with *Vatavyadhi*, which may manifest in any form like - *Pakshaghata, Ekangavata, Panguvata, Sarvangavata, Kampavata*etc, and diagnosis is based on the *lakshanas found in a particular patient.* Cerebral palsy may also be considered as *Shiromarmabhighatajavatavyadhi* as *Caraka* while describing *Shiromarmabhighata* has mentioned *vatavikaras* like *Chestanasha* (loss of motor function), *Hanugraha* (locked jaw), *Mukatva*(dumbness), *Gadgadatva* (lulling speech), *Lalasrava* (excessive salivation), *Svarahani* (speech disorders)[2,] etc. *Vasti* is very important, as it radically expiates the morbid *vata*, the sole *dosha* responsible for the movements of all *doshas, dhatu*, and *mala* within the body. Caraka aptly highlighted *Vasti* - as *Vastivataharanamshreshtha*[3]. *Vasti* indeed is half of the entire management of diseases. *Vasti* increases *Agni, Medha, Varna*, etc. All major neurological disorders are identified with *vatadosha* or *vata vikaras* and *vasti* is the supreme treatment for the alleviation of *vata* and it acts as *Amrutha* for *vata vikaras*.[4] In the present study, *Madhutailyadhya yapana vasti* has been selected which is having *vatahara, dipana, brumhana, Balavarnakara, rasayana, nirupadrava* and is mainly suitable for children.[5]

MATERIALS AND METHODS

MATERIALS

1. *Madhu*
2. *Mahamasha Tailam*
3. *Saindhava Lavaṇa*
4. Śatapuṣpa Kalkam
5. Disposable gloves
6. *Mortar and pestle*
7. 50ml disposable syringe
8. Nel's catheter is 16 sizes.

SOURCE OF DATA

Patients who have attended the OPD and IPD of the Kaumarabhritya department of S. V. Ayurvedic Hospital, Tirupati between 1to 10 years of age with Spastic Cerebral palsy are screened. Total patients are randomly allocated into two groups, Group-A was subjected to Madhu tailadhya yapana vasti and Group-B were subjected to vasti with C.P formula which was practiced from past years in S.V Ayurvedic college, Tirupati, A.P. Patients coming with the selected disorder are registered alternately into the two groups. Among them, 25 patients in each group fulfilled the inclusion and exclusion criteria are taken.

INVESTIGATIONS

Routine blood investi*gati*ons – Haemoglobin%, T.C, D.C were done before treatment.

Earlier reports of CT scans, MRI, etc., and other investigations if any were present were taken and recorded in the present study.

- INCLUSION CRITERIA:
  - Patients having mild to severe spastic CP.
  - The patient age group of 1-10 years.
  - Patients of both sexes.
- EXCLUSION CRITERIA:
  - Patients of age group more than 10 years.
  - Patients having other than spastic c.p types.

Patients suffering from convulsion disorder other systemic diseases, metabolic disorders, genetic disorders, neuro degenerative disorders, etc.

DESIGN OF THE CLINICAL STUDY

It is a single-blind comparative clinical study with Pre-test and Post-test design where 50 patients suffering from *Spastic Cerebral palsy* of either sex will be selected excluding the dropouts. Patients coming to Kaumarabhritya OPD and IPD with *Spastic Cerebral palsy* will be alternately registered into two groups (Group-A and Group-B) after screening.

- INTERVENTION:

Table 01: Treatment Plan

AGE	GROUP A	GROUP B	DURATION
1-5yrs	Madhutailyadhya yapana vasti(100ml)	Vasti with C.P formula(100ml)	11days
6-10yrs	Madhutailyadhya yapana vasti(150ml)	Vasti with C.P formula(150ml)	11days

Each group will be subjected to vasti then again, every month for three consecutive months.

Table 02: Method of preparation of vasti for GROUP A:

INGREDIENTS	1-5 Yrs. (100ml)	6-10 Yrs. (150ml)
Madhu	30-45ml	50-75ml
Mahamasha tailam	30-45ml	50-75ml
Saindhavam	1/2gm	1gm
Satapuspa	1/2gm	1gm

Table 03: Method of preparation of *Vasti for GROUP B*:

Ingredients		0 – 5yrs (100ml)		6 – 10 yrs. (150ml)	
Madhu		3 ml		4 ml	
Saindhavam		½ g		½ g	
Satapushpa		½ g		1 g	
*Kashaya*m	*Brahmi*	3 g		4 g	
	Yasti	1½ g	44ml	2 g	66ml
	Vacha	1 g		1 g	
*Taila*m – *Mahanarayana Taila*m		50 ml		75 ml	
Gomutram		3 ml		5 ml	

Assessment Criteria:

Table No. 4 Modified Ashworth Mass Scale

TYPE OF JOINTS & MUSCLE	BT	AT		
		1st sitting	2nd sitting	3rd sitting
ELBOW				
WRIST				
HAMSTRINGS				
QUADRICEPS				
GASTROENEMIUS				
SOLEUS				

TABLE NO. 5 GONIOMETRIC MEASURMENT

TYPES OF JOINTS		BT	AT		
			1st sitting	2nd sitting	3rd sitting
ELBOW (FLEXION) (0-150)					
WRIST	FLEXION (0-60)				
	EXTENSION (0-60)				
	RADIAL DEVIATION (0-20)				
	ULNAR DEVIATION (0-30)				
KNEE (FLEXION) (0-150)					
ANKLE	PLANTAR FLEXION (0-40)				
	DORSIFLEXION (0-20)				

CRITERIA FOR ASSESSMENT OF THE TOTAL EFFECT OF THERAPY:

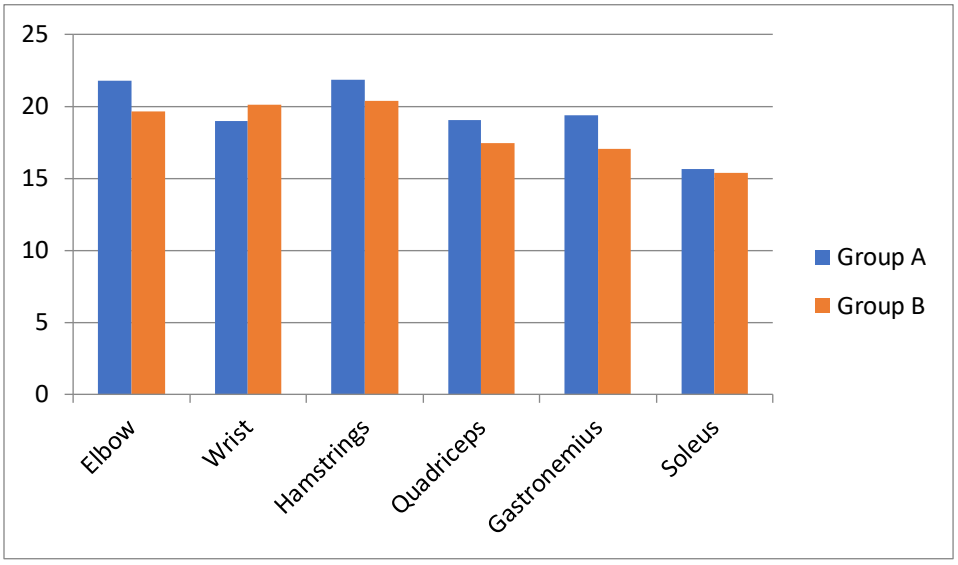
The assessment was done after the completion of all 3 courses of treatment. At the end of treatment, the result in view of the percentage of relief was classified as given below:

1. Maximum improvement: More than 75% to 100% improvement of ROM and reduced spasticity.
2. Moderate Improvement: More than 50% to 75%improvement of ROM and reduced spasticity.
3. Mild Improvement: More than 25% to 50%improvement of ROM and reduced spasticity.
4. No Improvement: Equal or less than 25%improvement of ROM and reduced spasticity.

RESULTS:

Table 06: Effect of Therapies on subjective parameters:

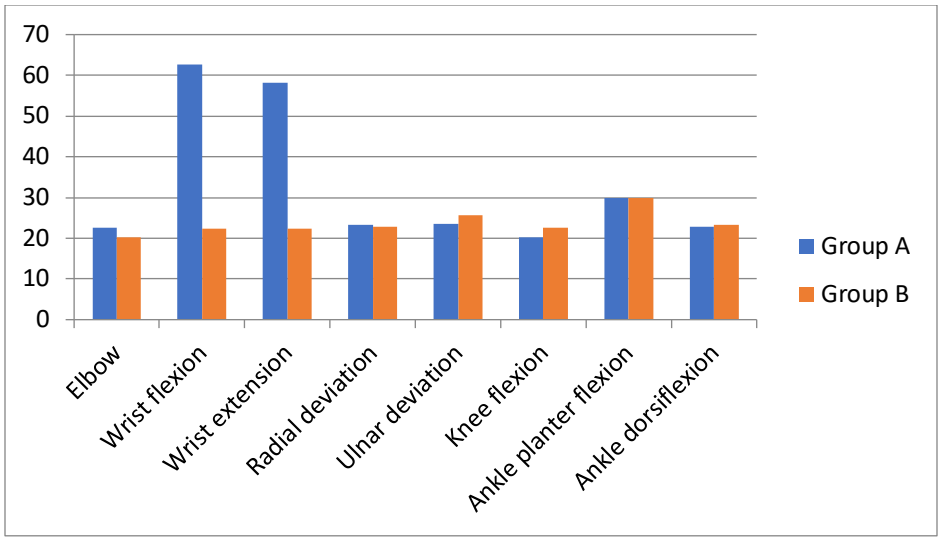
Sl. No	Joints and muscles	GP- A % Of relief	P-value of GP-A	GP-B % Of relief	P-value of GP- B
1	Elbow	21.81	<0.05	19.62	<0.05
2	Wrist	18.96	<0.05	20.13	<0.05
3	Hamstrings	21.87	<0.05	20.37	<0.05
4	Quadriceps	19.04	<0.05	17.42	<0.05
5	Gastrocnemius	19.35	<0.05	17.02	<0.05
6	Soleus	15.62	<0.05	15.38	<0.05



Graph No. *1 shows the effect of therapies on subjective parameters.*

Table 07: Effect of Therapies on objective parameters:

Sl. No	Joints	GP-A % Of relief	P-value of GP-A	GP-B % Of relief	P-value of GP-B
1	Elbow	22.64	<0.05	20.13	<0.05
2	Wrist flexion	62.60	<0.001	22.35	<0.05
3	Wrist extension	58.11	<0.001	22.35	<0.05
4	Radial deviation	23.33	<0.05	22.72	<0.05
5	Ulnar deviation	25.58	<0.05	25.58	<0.05
6	Knee flexion	20.13	<0.05	22.64	<0.05
7	Ankle planter flexion	30	<0.05	30	<0.05
8	Ankle dorsi flexion	22.72	<0.05	23.33	<0.05



Graph No. *2 Showing effect of therapies on objective parameters*

OVERALL CLINICAL IMPROVEMENT

In Group A 8% patients have shown moderate improvement, 68% patients have shown mild improvement, 24% patients have shown no improvement. In Group B 4% patients have shown moderate improvement, 60% patients have shown mild improvement, 34% patients have shown no improvement. Mild, Moderate, Maximum, and No improvement was observed in 32 patients (60 %), 3 patients (6 %), none of the patients (0 %), and 15 patients (34 %) respectively in all 50 patients of this study. Improvement in the ROM of joints shows the efficacy of Ayurvedic treatment measurements.

DISCUSSION

In the present study, *Mahamasha tailam* has been taken as it is the best *Vatahara taila*. Its drugs have properties of *vata kapha hara, balya, rasayana, brimhana, dipana, pachana, agnivardhaka*, etc. *Tilataila* is a good source of protein and is fairly rich in vit. A, B & C. Because of the *Sukshma guna* of *taila*, it has good penetrating power; it enters even the deep *Srotas*& can reach every part of the body. Thus, the *sneha* taken for *vasti* may nourish the nervous tissue and body, helping in repairing damaged tissue and preventing further damage. *Sneha* strengthens the power of *indriyas* and thus helps in the maintenance of their normal functions. This systemic action of *Vasti* can be well explained on the basis of physiological and pharmacological actions. The gastrointestinal tract has a nervous system all of its own called the "*Enteric nervous system*" or the "*Gut-brain*". Just like the larger brain in the head, researchers say, this system sends and receives impulses, records experiences, and responds to emotions. The number of neurons in this enteric system is almost equal to the number in the entire spinal cord. Thus, *Vasti dravya* when administered into the rectum may stimulate the sensory system due to the chemical composition and pressure effect over the bowel. As the total nervous system is interrelated so this regular stimulation of ENS has a positive effect on CNS also. Another concept of the mechanism of *Vasti* can be interpreted by understanding the microanatomy of the gut. It reveals scattered, frequently solitary hormone-producing cells of the stomach, intestine, and pancreas. These are known as the Gastro entero pancreatic (GEP) endocrine system able to produce peptides and amines as active as hormones or as a neurotransmitter. Other than the local stimulation drugs may get absorbed through the large bowel mucosa and may enter systemic circulation through superior, middle, or inferior haemorrhoidal veins. Drugs absorbed into inferior and middle haemorrhoidal veins (about 50%) bypass the liver and enter into the systemic circulation without any change. So, there is less chance of destruction of active principles of *Vasti dravyas* by metabolic

reactions. So, the action of the drug also may be faster. Colon has a large number of bacterial floras which bestow the body by producing certain factors of the B group of vitamins and K. These intestinal floras maintain the normal physiology of the gut and help in the proper absorption of nutrients and detoxify certain substances, thus have a great systemic effect. High-fat content metabolized sugars and buffering capacity of the matrix help to protect this bacterial flora. So *vasti dravyas* which are generally rich in sugars and fat contents. Thus, by the above description, it is clear that *vasti* is having an effect on over all body. It nourishes the body by direct absorption, by diffusion in the colon, by the potency of *vasti* drugs is circulated to the whole body and the morbid *doshas* are thrown out of the body.

CONCLUSION

The treatment given in Group- A &Group-B both has the same efficacy. The percentage of relief is a little bit more in Group-A than in Group-B. The Range of movement of joints is improved. Nourishment to the muscles was observed. In some cases, due to the reduction of the stiffness of the elbow joint child started feeding with his own hand. Due to reduced spasticity in the hamstrings muscle, flexion of the knee and walking improved. There was an overall reduction of spasticity with no side effects. For the goniometric measurements to be taken, it requires the child to be quiet, calm, and cooperative. Since Cerebral Palsy is a disorder which also involves higher mental functions, most of the children had behavioral problems. Hence measurement could be taken only with utmost care in the presence and support of parents. As the study period was short, only a small sample could be included in the study. Thus, only a rough estimate of the statistical evaluation was possible.

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