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Research Article

Cervical Spondylosis

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A Standard Controlled Clinical Evaluation of Swedana and Agnikarma in Cervical Spondylosis (Manyastambha)

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As exertion and stress is increasing day-by-day, diseases also increased in our daily routine. Prolonged sitting work, desktop work and continuous household work led to it. Degeneration of cervical spine components, such as facet joints and intervertebral discs, is known as cervical spondylosis. This degenerative process frequently causes stiffness, pain, and possible nerve compression in the neck, which can result in radicular symptoms such as upper extremity pain, numbness, or weakness. In Manyasthamba there is Vata Avarana by Kapha which later turns out to Kevala Vata Vyadhi. So, the present study aims at integrating Ayurvedic treatments with conventional approaches for cervical spondylosis addresses the condition holistically and treating not just the symptoms but also the root causes. The study entitled "A standard controlled clinical evaluation of Swedana and Agnikarma in cervical spondylosis (Manyastambha)" was conducted in 60 patients. They were selected on the basis of standard inclusion and exclusion criteria and randomly allocated to two different groups; Group - A (Ruksha Baluka Swedana, Punnagadi Patra Potali Swedana, Agnikarma) and Group - B (Controlled drug i.e., Pregabalin, Methyl cobalamin, Etoricoxib, Thiocolchicoside). Total duration of the treatment was of 16 days along with a follow-up period of 30 days. Both the intervention was effective, but in overall improvement of the patients "Group A" had shown better result along with long lasting effect in comparison with "Group B".

Keywords: Cervical spondylosis, Manyasthamba, Swedana, Agnikarma, Ruksha Baluka Swedana, Punnagadi Patra Potali Swedana

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Introduction

Cervical Spondylosis is a degenerative disorder involving intervertebral discs, cervical spines and joints of the cervical region.[1]

It commonly occurs at the lowest three cervical intervertebral joints (C5-C6-C7). There is degeneration of the intervertebral disc with its protrusion and bony overgrowth of adjacent vertebrae, causing narrowing of the cervical canal and intervertebral foramina with resultant compression of nerve roots, cords, or both.

Symptoms of cervical spondylosis manifest as neck pain and neck stiffness and can be accompanied by radicular symptoms when there is compression of neural structures.

Based on sign and symptoms cervical spondylosis can be corelated with *Manyastambha*. *Manyastambha* is explained one of the *Vataja Nanatmaja Vikara.*[2]

According to *Sushruta Samhita,* the *Vata Dosha* and *Kapha Dosha* get aggravated and take *Ashraya* at *Manya Pradesh*, affecting the *Manya Siras* (nerves of neck) causing *Ruja* (pain) and *Stambha* (stiffness or difficulty in mobility) of the neck.[3]

In the initial stage of *Manyasthambha* there is *Vata Avarana* by *Kapha* which later, turns out to be a *Kevala Vata* (disease of *Vata* alone). So, in order to relieve the obstructing *Kapha Dosha*, *Acharya Charka* mentioned about *Baluka Swedana*.[4]

Patra Pinda Sweda is an effective treatment in painful conditions caused mainly by *Vata Dosha*, usually in degenerative diseases. According to *Acharya Sushruta* there is indication of *Agni Karma* in *Snayu*, *Sandhi* and *Asthi Gata Vata*. *Agnikarma* aims for the achievement of *Apunarbhava Chikitsa.* So, for the present study following line of treatment is chosen.

Aims and Objectives

1. To assess the efficacy of *Ruksha Baluka Swedana, Punnagadi Patra Potali Swedana* and *Agni Karma* in cervical spondylosis (*Manyastambha*).
2. To compare the efficacy of *Ruksha Baluka Swedana*, *Punnagadi Patra Potali Swedana* and *Agni Karma* with standard controlled group in cervical Spondylosis (*Manyastambha*).

Materials and Methods

For present clinical study, patients were completely screened on the basis of classical signs and symptoms of cervical spondylosis (*Manyastambha*) from the OPD and IPD of *Panchakarma* Department of Rishikul Campus Hospital, UAU, and RKMS Hospital, Haridwar.

Inclusion Criteria

- Subject between the ages 20 to 60.
- The subjects with classical signs and symptoms of Cervical Spondylosis and *Manyastambha*
- Subjects fit and willing for *Ruksha Baluka Swedana, Punnagadi Patra Potali Swedana, Agnikarma* and Standard controlled drug.

Exclusion Criteria

- Pregnancy and lactating mother
- Subjects with uncontrolled HTN, diabetes and other systemic disorders that interfere in the line of treatment.
- Subjects with Congenital deformity, Traumatic injuries, cervical stenosis and Myelopathy, Ankylosing spondylitis, Infections of bone and Gross bony deformity.
- Any other known neurological disease.

Grouping

Group A: In 30 Patient, *Ruksha Baluka Swedana* was given for 5 days followed by *Punnagadi Patra Pottali Swedana* for 10 days and one sitting of *Agnikarma* was done on 16th day.

Group B: In 30 patient these drugs were given orally for 16 days.

- Pregabalin 75mg - OD (HS)
- Methyl cobalamin 1500mcg –OD
- Etoricoxib 60mg-BD
- Thiocolchicoside 4mg BD.

Criteria For Assessment

1. Pain (VAS scale)

2. Stiffness	Score
No muscle stiffness	0
Stiffness at one side but not causing any problem in activities	1
Stiffness noticed spontaneously requiring analgesic therapy	2
Severe or incapacitating discomfort	3
3. Pain on neck movement	**Score**
No pain on neck movement	0
Mild (<25%) and intermittent pain on neck movement to any side, with return to normal	1
Moderate pain (25-60%) on neck movement to any side, requiring analgesic therapy	2
Marked pain (51-71%) on neck movement to any side, requiring analgesic therapy	3
Severe (>75%) and persistent pain on neck movement which subside for shorter duration with analgesic therapy	4
4. Occipital headache	**Score**
No headache	0
Mild headache requiring no pain medication	1
Moderate headache requiring nonprescription pain medication	2
Severe headache requiring prescription pain	3
5. Restricted Neck Movement	
Flexion	**Score**
No restriction i.e., able to touch the interclavicular line	0
Up to 2cm difference between the chin and interclavicular line	1
2-4cm difference between the chin and interclavicular line	2
More than 4cm difference	3
Extension	**Score**
Normal (i.e., able to extend the hand up to the level when tip of nose and forehead in horizontal plane approximately)	0
Movement up to 120°	1
Movement up to 110° -120°	2
Movement less than 110°	3
Lateral flexion	**Score**
Normal i.e., the ear touches the shoulder tip	0
Up to 3cms difference between the ear and the shoulder tip	1
5cms difference between the ear and the shoulder tip	2
More than 5cms difference	3
Lateral rotation	**Score**
Normal i.e., able to make complete rotation of neck	0
Rotation with little difficulty	1
Rotation side to side only	2
Rotation one side only	3
6. Tingling	**Score**
Not at all	0
A little bit (<25%)	1
Somewhat (26-50%)	2
Quite a bit (51-75%)	3
Very much (>75%)	4
7. Numbness	**Score**
No symptoms	0
Mild symptoms	1
Moderate symptoms (limiting instrumental ADLS i.e., activities of daily living)	2
Severe (limiting self-care ADLS)	3

8. Dizziness	Score
Dizziness absent	0
Mild unsteadiness or sensation of movement something	1
Moderate unsteadiness or sensation of movement, limiting instrumental ADLS	2
Severe unsteadiness or sensation of movement, limiting self-care ADLS	3
9. Vertigo	**Score**
Never	0
A few times (1-3 times /year)	1
Several times (4-12 times /year)	2
Quite often (on average >1times /month)	3
Very often (on average >1tinme /week)	4
10. Grip weakness	**Score**
No contraction or muscle movements	0
Trace of muscle contraction on attempt	1
Active movement of muscle when gravity is eliminated	2
Movements against gravity, but not against added resistance	3
Movement against external resistance with less strength than usual	4
Normal strength	5

X-RAY Criteria:

1. Intervertebral disk narrowing	Score
None (0%)	0
Mild (1-25%)	1
Moderate (26-50%)	2
Marked (51-75%)	3
Severe (76-99%)	4
Joint fusion (100%)	5
2. Osteophytes	**Score**
None	0
Small definite osteophytes(<2mm)	1
Moderate osteophytes(2-4mm)	2
Large (>4mm)	3
3. Olisthesis	**Score**
None	0
<3mm	1
3-5mm	2
>5mm	3
4. Sclerosis	**Score**
None	0
Minimal	1
Moderate	2
Severe	3

Observations and Results

90 patients were screened out of which 60 patients were selected on the basis of inclusion and exclusion criteria. Thus, total 60 patients were registered for the trial and randomly divided into two groups (30 patient in each group) out of which 29 patients were in Group A and 27 patients were in Group B completed the treatment respectively.

Demographic Data

Age: Maximum patient i.e., 47% were from the age group of 46- 60 years, followed by 28% were from age group of 20-35 years and rest 25% were of age group 36-45 years. This show that maximum sample population belongs to old age group as spondylotic changes increase with age.

In this age group *Vata* is more predominant, which takes pivot role for degenerative changes in tissue and can manifest as *Asthigata Vata.* But in recent scenario due to work profession and sedentary life style this disease also appears below this age group.

Gender: Cervical spondylosis usually starts earlier in men then in women.**[5]** Data reveals that both the sexes are equally affected by cervical spondylosis this difference in the study can even be neglected due to small sample size.

Religion: 75% of patient registered in study were Hindu 25 % were Muslim community. This may be due to the fact that Rishikul Campus is located in Haridwar, which is a Hindu predominant area.

Socio Economic Status: This data shows general trend of middle (38%) and lower middle (35%) class of patient to attend the OPD of Rishikul campus. But it can occur any of the class who are more exposed to neck strain or poor posture.

Nature of Work: The analysis of the data reveals that the majority of patients, i.e. 43% were field workers, followed by 36% desk job professional, 18% patients with long standing workers and 3% travelers. As we all know that cervical spondylosis is more common in patient with occupational stress, faulty sitting posture and continuous neck exertion.

Koshtha: *Koshtha* is the expression of bowel habits, which depends on *Prakruti.* In present study, 43% patients were *Madhyama Koshtha*, this shows that *Kapha* predominancy and *Manda Agni*, which is the most important culprit in the pathogenesis of cervical spondylosis while 30% were *Kroora Koshtha* and 27% were *Mridu Koshtha.*

Family History*:* It was found that maximum number of the patient 75% having negative family history. This show that as it is a degenerative disease so it has no relevance with family history.

Addiction: 64% addicted to tea/coffee, followed by smoking addiction in 14% patients & 10% patients consume tobacco. Excessive use of coffee & tobacco containing phosphorus, it prevents calcium absorption & thus leads to demineralization of bones.

Sleep: 57% enjoyed sound sleep, 43% patients had disturbed sleep, Pain in cervical spondylosis sometimes worsens at night thus may be resulting in disturbed sleep in these patients.**[6]**

***Prakruti*:** The analysis of the gathered data reveals that the majority of patients, i.e., 38%, were *Vata-Pittaja Prakriti*, while 32% had *Vata-Kaphaja Prakriti*, and 30% had *Pitta-Kaphaja Prakriti*.

It suggests that *Vata Kaphaja* and *Vata Pittaja Prakrti* are more susceptible to degenerative disease as the property of increased *Vata* itself is destruction of bone and absorption of fluid that leads to Cervical Spondylosis.

Diet: The data from the current study indicates that the dietary choice among the patients were 55% mixed type of diet and 45% were vegetarian. Meat is a rich source of Sulphur which can change the pH of blood to acidic. Acidity of the blood leads to demineralization of bones.**[7]**

***Vyayama Shakti*:** A maximum number of patients i.e., 43 (50%) were of *Avara Vyayamashakti*, 10 patients (16%) were of *Pravara Vyayamashakti* and 11.67% were of *Madhyama Vyayamashakti Avara Vyayama Shakti* indicates *Avara Bala* of patients in cervical spondylosis and another reason for *Avara Vyayama Shakti* may be due to the deformity caused by the disease factors that can make a person more likely to develop Spondylosis are being overweight and not exercising.

Chief Complaints

The analysis of the collected data reveals that pain and stiffness were present in almost 90% of the patient, 30% had occipital headache and 25-27% patient had dizziness.

As Pain and Stiffness are the main cardinal symptoms of *Manyasthambha* almost all the subjects were complaining about this along with a major number of subjects complaints about occipital headache and dizziness also. These symptoms occur when there is involvement of nerve root compression. Normally this nerve root compression is seen in later stages of cervical spondylosis.

Simple pain and stiffness will be neglected by most of the population until and unless it affects their day-to-day activities. And further deterioration of structures leads to degeneration of intervertebral discs and lead to these symptoms. In chronic and severe conditions of disease leads to severe nerve root compression and in such cases, occipital headache, dizziness and vertigo is observed on neck movements.

Observation of Clinical Study and Result

Subjective parameter

Table 1: Effect of *Swedana* and *Agnikarma* in Group-A on subjective parameters

Group A	N	Mean		Median		SD		Wilcoxon W	P-Value	% Effect	Result
		BT	AT	BT	AT	BT	AT				
Pain (Vas scale)	29	7.55	3.55	8.00	3.00	1.53	1.43	-4.684b	0.00000	52.97	HS
Stiffness	26	1.28	0.59	1.00	1.00	0.65	0.50	-4.264b	0.00002	54.05	HS
Pain on neck movement	27	1.41	0.90	1.00	1.00	0.68	0.49	-3.441b	0.00058	36.59	HS
Occipital Headache	11	0.93	0.55	1.00	1.00	0.59	0.51	-2.840b	0.00451	40.74	VS
Restriction in Flexion	8	0.28	0.14	0.00	0.00	0.45	0.35	-2.000b	0.04550	50.00	Sig
Restriction in Extension	19	1.00	0.69	1.00	1.00	0.89	0.71	-2.714b	0.00666	31.03	VS
Restriction in lateral rotation	22	0.86	0.59	1.00	1.00	0.58	0.50	-2.309b	0.02092	32.00	Sig
Restriction in lateral flexion	18	0.62	0.52	1.00	1.00	0.49	0.51	-1.732b	0.08326	16.67	NS
Tingling	26	1.31	1.03	1.00	1.00	0.71	0.57	-2.309b	0.02092	21.05	Sig
Numbness	20	0.83	0.62	1.00	1.00	0.66	0.56	-2.449b	0.01431	25.00	Sig
Dizziness	10	0.34	0.28	0.00	0.00	0.48	0.45	-1.414b	0.15730	20.00	NS
Vertigo	9	0.34	0.28	0.00	0.00	0.55	0.53	-1.414b	0.15730	20.00	NS
Grip weakness	0 (All are normal)	00	00	00	00	00	00	00	00	00	NS

Table 2: Effect on X-ray findings

Group A (X -Ray)	Mean		Median		SD		Wilcoxon W	P-Value	% Effect	Result
	BT	AT	BT	AT	BT	AT				
Intervertebral disk narrowing	0.21	0.21	0.00	0.00	0.41	0.41	.000d	1.00000	0.00	NS
Osteophyte	0.97	0.97	1.00	1.00	0.57	0.57	.000d	1.00000	0.00	NS
Olisthesis	0.07	0.07	0.00	0.00	0.26	0.26	.000d	1.00000	0.00	NS
Sclerosis	0.17	0.17	0.00	0.00	0.38	0.38	.000d	1.00000	0.00	NS

Table 3: Effect of control drug in Group-B on subjective parameters

Group B	N	Mean		Median		SD		Wilcoxon W	P-Value	% Effect	Result
		BT	AT	BT	AT	BT	AT				
Pain (Vas scale)	27	7.59	3.41	8.00	3.00	1.50	0.84	-4.573b	0.00000	55.12	HS
Stiffness	25	1.22	0.44	1.00	0.00	0.58	0.58	-4.379b	0.00001	63.64	HS
Pain on neck movement	25	1.56	0.85	1.00	1.00	0.85	0.72	-4.146b	0.00003	45.24	HS
Occipital Headache	8	1.07	0.63	1.00	1.00	0.55	0.49	-3.207b	0.00134	41.38	VS
Restriction in Flexion	10	0.44	0.19	0.00	0.00	0.64	0.40	-2.646b	0.00815	58.33	VS
Restriction in Extension	16	0.85	0.52	1.00	0.00	0.82	0.75	-2.324b	0.02014	39.13	Sig
Restriction in lateral rotation	21	1.00	0.63	1.00	1.00	0.68	0.49	-2.887b	0.00389	37.04	VS
Restriction in lateral flexion	19	0.74	0.52	1.00	1.00	0.53	0.51	-2.121b	0.03389	30.00	Sig
Tingling	23	1.26	0.52	1.00	0.00	0.86	0.85	-3.357b	0.00079	58.82	HS
Numbness	10	0.52	0.22	0.00	0.00	0.75	0.42	-2.828b	0.00468	57.14	VS
Dizziness	6	0.22	0.15	0.00	0.00	0.42	0.36	-1.414b	0.15730	33.33	NS
Vertigo	5	0.19	0.11	0.00	0.00	0.40	0.32	-1.414b	0.15730	40.00	NS
Grip weakness	0 (All are normal)	00	00	00	00	00	00	00	00	00	NS

Table 4: Effect on X-ray findings

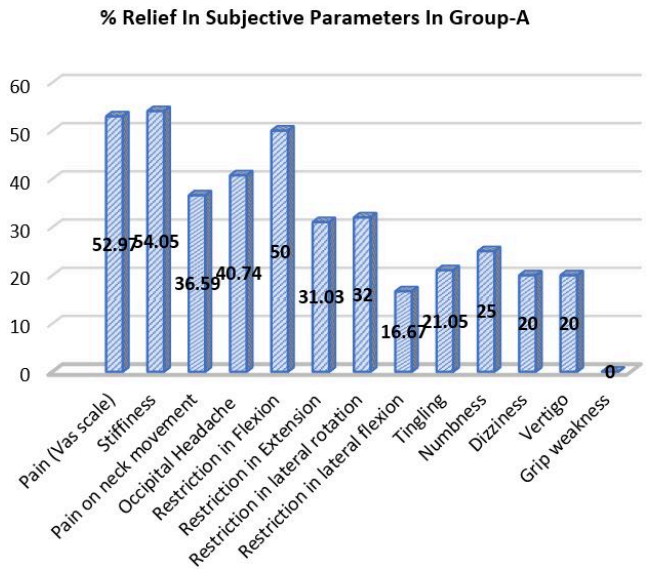
Group B (X-Ray)	Mean		Median		SD		Wilcoxon W	P-Value	% Effect	Result
	BT	AT	BT	AT	BT	AT				
Intervertebral disk narrowing	0.30	0.30	0.00	0.00	0.54	0.54	.000c	1.00000	0.00	NS
Osteophyte	0.81	0.81	1.00	1.00	0.56	0.56	.000c	1.00000	0.00	NS
Olisthesis	0.11	0.11	0.00	0.00	0.32	0.32	.000c	1.00000	0.00	NS
Sclerosis	0.15	0.15	0.00	0.00	0.36	0.36	.000c	1.00000	0.00	NS

(Table no.1) shows that trial therapy (*Swedana* and *Agnikarma*) provided a highly significant improvement (P< 0.001) in pain (52.97%), stiffness (54.05%) and pain in neck movement (36.56%), very significant was found in (P< 0.01) was found in occipital headache (40.74%) and restriction in extension (31.03) Significant (P<0.05) was found in restriction in flexion (50%), restriction in lateral rotation (32%), tingling (21.05%) and numbness (25%). And not significant (P≥0.05) was found in restriction in lateral flexion, dizziness, vertigo and grip weakness.

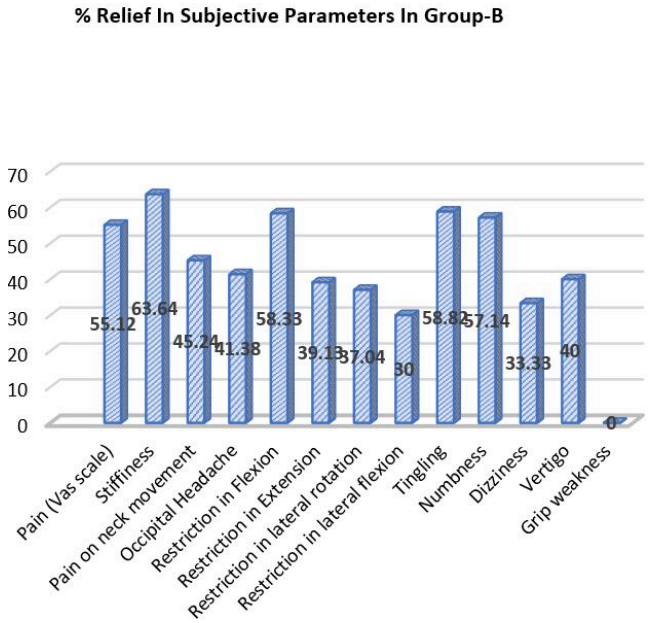
(Table no.2) shows p value for Intervertebral disk narrowing, Osteophyte, Olisthesis and Sclerosis is (P≥0.05) and the result was not significant for all parameters.

(Table no.3) shows that trial drug provides a Highly significant improvement (P<0.001) was found in pain (55.12), stiffness (63.64%), pain on neck movement (45.24%) and tingling (58.82%). Very significant improvement (P<0.01) was found in occipital headache (41.38%), restriction in flexion (58.33%), restriction in lateral rotation (37.04%), and numbness (57.14%), Significant improvement (P<0.05) was found in restriction in extension (39.13%) and restriction in lateral rotation (30.00% and not significant (P≥0.05) was found in dizziness, vertigo and grip weakness.

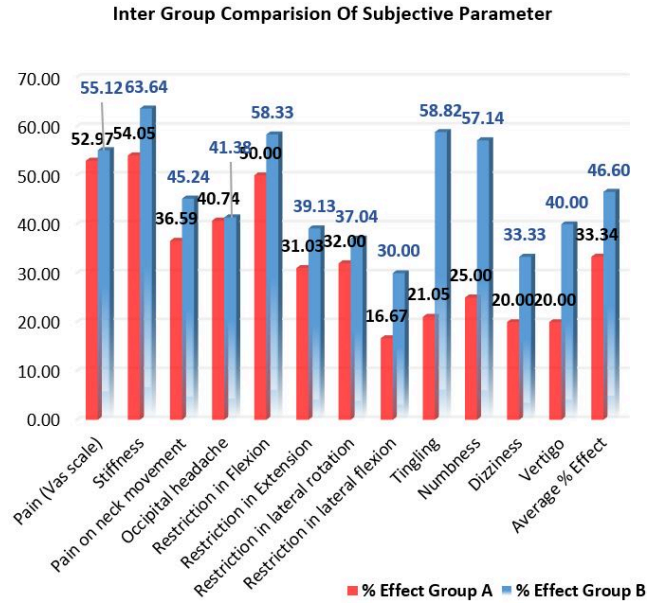
(Table no.4) shows p value for Intervertebral disk narrowing, Osteophyte, Olisthesis and Sclerosis is (P≥0.05) and the result was not significant for all parameters.



Graph 1: Percentage relief in subjective parameters in Group-A



Graph 2: Percentage relief in subjective parameters in Group-B



Graph 3: Inter Group Comparision of Subjective Parameter

Intergroup Comparison Result:

Inter group comparison not significant result (p ≥ 0.05) was found in all subjective parameter except tingling (as in tingling highly significant result was found). In both group X-Ray criteria shows non- significant result.

Comparative Assessment - However, in the term of percentage both groups has shown almost equal result but in tingling (58.82%), numbness (57.14%), dizziness (33.33%) & vertigo (40.00%) Group- B shows better result than Group- A

Table 5: Inter Group Comparison of Subjective Parameters

Variable	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-Value	Result
Pain (Vas scale)	Group A	29	27.78	805.50	370.500	0.724	NS
	Group B	27	29.28	790.50			
	Total	56					
Stiffness	Group A	26	27.33	710.52	357.500	0.448	NS
	Group B	25	29.76	743.98			
	Total	51					
Pain on neck movement	Group A	27	26.38	712.24	330.000	0.250	NS
	Group B	25	30.78	769.44			
	Total	52					
Occipital Headache	Group A	11	28.28	311.08	385.000	0.904	NS
	Group B	08	28.74	229.92			
	Total	19					
Restriction in Flexion	Group A	8	26.86	214.90	344.000	0.258	NS
	Group B	10	30.26	302.59			
	Total	18					
Restriction in Extension	Group A	19	27.72	526.76	369.000	0.669	NS
	Group B	16	29.33	469.33			
	Total	35					
Restriction in lateral rotation	Group A	22	27.43	603.48	360.500	0.560	NS
	Group B	21	29.65	622.61			
	Total	43					
Restriction in lateral flexion	Group A	18	26.84	483.21	343.500	0.254	NS
	Group B	19	30.28	575.28			
	Total	37					
Tingling	Group A	26	23.09	600.24	234.500	0.005	HS
	Group B	23	34.31	789.24			
	Total	49					
Numbness	Group A	20	27.29	545.86	356.500	0.444	NS
	Group B	10	29.80	297.96			
	Total	30					
Dizziness	Group A	10	28.43	284.31	389.500	0.941	NS
	Group B	6	28.57	171.44			
	Total	16					
Vertigo	Group A	9	28.43	255.88	389.500	0.941	NS
	Group B	5	28.57	142.87			
	Total	14					
Grip weakness	Group A	0	00	00	00	00	NS
	Group B	0	00	00			
	Total	0 (All were having normal values)					

Table 6: Post Treatment Effect on Follow-Up (Group A)

Group A	Mean		Median		SD		Wilcoxon W	P-Value	% Change	Result
	AT	FU	AT	FU	AT	FU				
Pain (Vas scale)	3.55	4.10	3.00	3.00	1.43	2.47	-1.634b	>0.05	-15.53	NS
Stiffness	0.59	0.90	1.00	1.00	0.50	0.67	-2.324b	<0.05	-52.94	Sig
Pain on neck movement	0.90	0.79	1.00	1.00	0.49	0.56	-1.342c	>0.05	11.54	NS
Occipital Headache	0.55	0.69	1.00	1.00	0.51	0.47	-2.000b	<0.05	-25.00	Sig
Restriction in Flexion	0.14	0.17	0.00	0.00	0.35	0.38	-1.000b	>0.05	-25.00	NS
Restriction in Extension	0.69	0.76	1.00	1.00	0.71	0.79	-1.414b	>0.05	-10.00	NS

Restriction in lateral rotation	0.59	0.69	1.00	1.00	0.50	0.54	-1.342b	>0.05	-17.65	NS
Restriction in lateral flexion	0.52	0.55	1.00	1.00	0.51	0.51	-1.000b	>0.05	-6.67	NS
Tingling	1.03	1.17	1.00	1.00	0.57	0.66	-1.633b	>0.05	-13.33	NS
Numbness	0.62	0.62	1.00	1.00	0.56	0.49	.000d	>0.05	0.00	NS
Dizziness	0.28	0.24	0.00	0.00	0.45	0.44	-1.000c	>0.05	12.50	NS
Vertigo	0.28	0.28	0.00	0.00	0.53	0.53	.000d	>0.05	0.00	NS
Grip weakness	00	00	00	00	00	00	00	00	00	NS

Table 7: Post Treatment Effect on Follow-Up (Group B)

Group B	Mean		Median		SD		Wilcoxon W	P-Value	% Change	Result
	AT	FU	AT	FU	AT	FU				
Pain (Vas scale)	3.41	6.74	3.00	8.00	0.84	2.41	-3.742b	<0.05	-97.83	Sig
Stiffness	0.44	0.93	0.00	1.00	0.58	0.62	-3.742b	<0.05	-108.33	Sig
Pain on neck movement	0.85	1.11	1.00	1.00	0.72	0.80	-1.748b	>0.05	-30.43	NS
Occipital Headache	0.63	0.74	1.00	1.00	0.49	0.53	-.905b	>0.05	-17.65	NS
Restriction in Flexion	0.19	0.37	0.00	0.00	0.40	0.56	-1.414b	>0.05	-100.00	NS
Restriction in Extension	0.52	0.63	0.00	0.00	0.75	0.74	-.577b	>0.05	-21.43	NS
Restriction in lateral rotation	0.63	0.63	1.00	1.00	0.49	0.56	-.707b	>0.05	0.00	NS
Restriction in lateral flexion	0.52	0.59	1.00	1.00	0.51	0.50	-1.000b	>0.05	-14.29	NS
Tingling	0.52	0.48	0.00	0.00	0.85	0.58	-.073c	>0.05	7.14	NS
Numbness	0.22	0.33	0.00	0.00	0.42	0.55	-1.732b	>0.05	-50.00	NS
Dizziness	0.15	0.19	0.00	0.00	0.36	0.40	-1.000b	>0.05	-25.00	NS
Vertigo	0.11	0.19	0.00	0.00	0.32	0.40	-1.000b	>0.05	-66.67	NS
Grip weakness	00	00	00	00	00	00	00	00	0.00	NS

Table 8: Inter Group Comparison of Subjective Parameters (At Vs Fu)

Variable	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-Value	Result
Pain (Vas scale)	Group A	29	33.83	981.00	237.000	<0.05	Sig
	Group B	27	22.78	615.00			
	Total	56					
Stiffness	Group A	26	30.14	874.00	344.000	>0.05	NS
	Group B	25	26.74	722.00			
	Total	51					
Pain on neck movement	Group A	27	32.81	951.50	266.500	<0.05	Sig
	Group B	25	23.87	644.50			
	Total	52					
Occipital Headache	Group A	11	28.41	824.00	389.000	>0.05	NS
	Group B	8	28.59	772.00			
	Total	19					
Restriction in Flexion	Group A	8	29.03	842.00	376.000	>0.05	NS
	Group B	10	27.93	754.00			
	Total	18					
Restriction in Extension	Group A	19	28.10	815.00	380.000	>0.05	NS
	Group B	16	28.93	781.00			
	Total	35					
Restriction in lateral rotation	Group A	22	27.26	790.50	355.500	>0.05	NS
	Group B	21	29.83	805.50			
	Total	43					
Restriction in lateral flexion	Group A	18	29.05	842.50	375.500	>0.05	NS
	Group B	19	27.91	753.50			
	Total	37					

Tingling	Group A	26	27.29	791.50	356.500	>0.05	NS
	Group B	23	29.80	804.50			
	Total	49					
Numbness	Group A	20	29.90	867.00	351.000	>0.05	NS
	Group B	10	27.00	729.00			
	Total	30					
Dizziness	Group A	10	29.45	854.00	364.000	>0.05	NS
	Group B	6	27.48	742.00			
	Total	16					
Vertigo	Group A	9	29.00	841.00	377.000	>0.05	NS
	Group B	5	27.96	755.00			
	Total	14					
Grip weakness	Group A	0	00	00	00	00	NS

Sig - Significant, **NS -** Non Significant

In Group A after completion of trial, statistically **not significant (P>0.05)** result was found in almost all subjective parameter except stiffness- (-52.94%) and occipital headache- (-25.00%) where the result was found significant. The percentage change in subjective parameter with non-significant result is- for pain (-15.53%), pain on neck movement- (11.54%), restriction in flexion- (-25.00%), extension- (-10.00%), lateral rotation- (-17.65%) and lateral flexion- (-6.67%), tingling- (-13.33%), numbness- (0.00%), dizziness- (12.50%) and vertigo- (0.00%).

It shows that there was long lasting effect found in all subjective parameters except (stiffness and occipital headache). In which there was significant relapse of symptoms.

In Group-B - Significant result (P<0.05) and change in percentage was found for pain (-97.83%) and stiffness (-108.33%) means there was relapse of symptoms whereas in pain on neck movement (-30.43%), occipital headache (-17.65%), restriction in flexion (-100.00%), extension (-21.43%), lateral rotation (0.00%), lateral flexion (-14.29%), tingling (7.14%), numbness (-50.00%), dizziness (-25.00%) and vertigo (-66.67%) the result was not significant (P≥0.05) which means there was long lasting effect.

On completion of follow up it has been observed that there is significant difference found between group A and group B on the pain (P<0.05). It was observed that group A has shown (-15.53%) while group B (-97.83%) result which indicate that there is lesser relapse in group A with comparison to group B.

For stiffness after completion of follow up not significant difference (P>0.05) was found in group A and group B. It was observed that group A has shown (-52.94%) while group B has shown (-108.33%) percentage changes in symptoms these findings indicates that there is lesser relapse in group A with comparison to group B. From above findings we can conclude that group B has seen severe relapse for stiffness. For pain in neck movement, it has been observed that there is significant difference found between group A and group B (P<0.05). It was observed that group A has shown (11.54%) while group B (-30.43%) percentage changes in symptom respectively, this data indicate that there is reoccurrence in group B while group A has shown much better response for pain in neck movement. For occipital headache, it has been observed that there is not significant result found in group A and group B (P>0.05) after completion of follow up. In the term of percentage change group A shows (-25%) changes in symptoms while group B has shown (-17.65%) which indicate that there is lesser relapse in group B with comparison to group A.

After completion of follow up there is not significant result (P>0.05) was found in group A and group B for parameters of restriction in flexion, extension, lateral rotation and lateral flexion but it has observed that group A has shown (-25%), (-10%), (-17.65%), and (-6.67%) changes in symptoms for above parameters respectively, while group B has shown (-100%), (-21.43%), (0.00), and (-14.29). So, we can conclude that group B shows severe relapse of symptoms after completion of follow up on maximum parameters while in group A effect of therapy was constant and long lasting.

On completion of follow up it has been observed that there is not significant (P>0.05) difference found between group A and group B for symptom tingling. It was observed that group A has shown (-13.33%) while group B (7.14%) percent relief in symptom which indicate that there is reoccurrence seen in group A while group B shows much better result for this parameter.

For numbness in group A symptom remains stable with (0.00%) changes in symptom while group B shows (-50%) which indicate severe revival.

On completion of follow up it has been observed that there is not significant (P>0.05) difference found between group A and group B for symptom dizziness. It was observed that group A has shown (12.50%) while group B (-25%) percent relief in symptom which indicate that there is reoccurrence seen in group B while group A shows much better result for this parameter.

On completion of follow up it has been observed that there is not significant (P>0.05) difference found between group A and group B for symptom vertigo. It was observed that group A has shown (0.00%) while in group B (-66.67%) percent relief in symptom which indicate that there is reoccurrence seen in group B while group A shows constant, better and long-lasting result for this parameter.

By above said findings we can state that after completion of trail both the group shown statistically insignificant result which means that both the group were equally effective, while in completion of follow up it can be clearly seen that result obtained in group A sustained for longer duration, whereas sever relapse is noted in group B.

With above observation we can say that both the groups show statistically significant relief in the sign and symptoms of cervical spondylosis (*Manyastambha*), after completion of treatment on inter group comparison insignificant difference was observed which means that both the group are equally effective in managing the disease.

While on comparison of follow up data, it has been seen that in group-A symptoms pain on neck movement (11.54%) and dizziness (12.50%), relief increased means relief keep on increasing after completion of treatment, some symptoms remain constant i.e. numbness and vertigo (0.00),

And in few symptoms like pain, restriction in flexion, extension, lateral rotation, lateral flexion, and tingling there is insignificant relapse is noted. In group B, significant relapse is observed in about all the symptoms. On inter group comparison, significant difference observed on completion of follow up which, indicate group A is better than group B.

Table 9: Assessment of Overall Response of Treatment

Overall Effect	Group A		Group B	
	N	%	N	%
Marked Improvement	2	6.90%	0	0.00%
Moderate Improvement	7	24.14%	16	59.25%
Mild Improvement	16	55.17%	9	33.33%
No Improvement	4	13.79%	2	7.40%
Total	29	100.00%	27	100%

Discussion

The purpose of this clinical study is to give cervical spondylosis patient which is a common yet impactful disorder a better diagnosis and course of treatment. The term "cervical spondylosis" refers to a broad spectrum of progressive degenerative alterations that affect every component of the cervical spine.

(I.e., intervertebral discs, facet joints, joints of Luschka, ligamentum flava, and laminae). Cervical spondylosis symptoms include neck pain, neck stiffness and it may be followed by radicular symptoms, when neural structures are compressed.

After low back pain, neck pain is a second most common widespread complaint. It is Imperative for health care practitioners to identify cervical spondylosis symptoms and offer cost effective intervention, evidence-based solutions. *Manyastambha* has been enumerated in *Vata Nanatmaja Vikara* where the vitiated *Vata* get lodged into *Manyasamshrita Nadi* resulting in *Sthamba* and *Shoola* in *Manya Pradesh.* Degenerative diseases can be included under the heading of *Vata Vyadhi.*

According to *Acharya Sushruta Manyastambha* is *Vata- Kaphaja Vyadhi* in acute stage where *Stambha* and *Gauravta* are present, at this point *Kapha* is predominant vitiated *Dosha* so firstly *Avarana* is removed by *Ruksha Baluka Swedana* due to its *Agnideepana* property.

Vata performs a secondary role in the disease's etiopathogenesis after going over the *Punnagadi Potali* which is explained in *Vata Vyadhi Adhikara* in *Yogaratankar* is chosen for pacifying vitiated *Vata Dosa* it is an unparalleled treatment in painful conditions caused mainly by *Vata Dosha*, usually in degenerative diseases. *Agnikarma* having anti *Vata Kapha* properties like *Ushana, Sukshma, Ashukarigunamaya* so helpful in relieving pain and muscle spasm instantly. And also aims for the achievement of *Apunarbhava Chikitsa.* So *Agnikarma* is chosen in the last step of the procedure as *Harita* stated in *Chikitsa Sthana* that *Yantra*, *Kshar*, and *Ausadha*, acts as *Pathya* means acts better when given after *Swedana* and *Mardana*.

Conclusion

The clinical presentation of *Manyastambha* closely resemblance with the sign and symptoms of cervical spondylosis it clearly states the pathogenesis of the neck and its contents. The treatment procedure described in *Ayurveda* focuses not only on drugs but also lifestyle modification. In this research study the above statistical data proves that after completion of trail both the group shown statistically insignificant result which means both the groups were equally effective. But on follow group A (*Swedana* and *Agnikarma*) sustained for longer duration, whereas sever relapse is noted in group B (Controlled drug). It should be recommended that the study should be repeated by taking large sample size with longer duration to see more accurate results and the recurrence of disease in follow ups.

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