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COMPARATIVE STUDY OF EFFICACY OF *KSHIRBALA TAILA NASYA* AND CERVICAL TRACTION IN THE MANAGEMENT OF *MANYASTAMBHA* (CERVICAL SPONDYLOSIS)

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ABSTRACT

Background: Cervical spondylosis is the most common progressive disorder in the aging cervical spine. *Manyastambha* is coming under one of the *Vataja nanatmaja vikara*. *Nasya Karma*, being the treatment of choice in *Urdhvajatrugata Vata Vyadhis*, is adopted in the management of *Manyastambha*. **Aim & Objectives: Aim:** To study comparative efficacy of *Kshirbala Taila Nasya* and Cervical Traction in the management of *Manyastambha*. (Cervical Spondylosis) **Objectives:** To study the effect of *Kshirbala Taila Nasya* and Cervical Traction in *Manyastambha*. To find out the reduction in cardinal signs of *Manyastambha* viz- *Stambha* (Stiffness), *ruka* (pain) by *Nasya Karma* using *Kshirbala Taila*. **Materials & Methods:** It is a comparative study of *Nasya Karma* using *Kshirbala Taila* and Cervical Traction in the management of *Manyastambha*. Total 30 patients were selected in each group and group A were subjected to *Nasya Karma* and Group B were subjected to Cervical Traction. **Conclusion:** Cervical Spondylosis is chronic disorder need the skilful managements. On day 14 the percentage of relief was seen more as compare to Day 30. In both group there was relief in both symptoms of *Manyastambha* i.e. *Stambha* (Stiffness) & *Ruka* (pain) and it was statistically found significant.

Keywords:*Manyastambha*, Cervical Traction, *Nasya*,*Ruka*, *Stambha*.

INTRODUCTION:

Manyastambha derived from two different words *Manya* and *Stambha*.[1] *Manyastambha* is coming under one of the *Vataja nanatmaja vikara*.[2] *Manya Shoola*, *Manyastambha* are the main symptoms.[3] The etiological factors responsible for the *Manyastambha* have been mentioned by *Sushrut*. According to him sleep in day time, leaning or sleeping on an uneven place, constantly gazing upward and *Avarana* of *Vayu* by *Kapha* lead to the disease *Manyastambha*.[4] Cervical spondylosis is the most common progressive disorder in the aging cervical spine. Cervical spondylosis is degeneration of inter-vertebral disc, with its protrusion and bony overgrowth of adjacent vertebrae causing compression of roots, cord or both. It results from the process of degeneration of the intervertebral discs and facet joints of the cervical spine.[5] *Nasya Karma*, being the treatment of choice in *Urdhvajatrugata Vata Vyadhis*, is adopted in the management of *Manyastambha*.[6,7]In Conservative management of Cervical Spondylosis, Cervical Traction is indicated. Cervical Traction is the

modality of choice for many neck and cervical dysfunctions.[8] Cervical Traction is accomplished by pulling the patient's head in a cephalad direction, in other words, away from the trunk. Cervical Traction has also been shown to relieve headaches and pain due to general soft tissue stiffness.[9] Thus, this study has undertaken this study to evaluate the therapeutic efficacy of *Nasya* Karma and Cervical Traction in *Manyastambha*.

AIM & OBJECTIVES:

AIM: To study comparative efficacy of *Kshirbala Taila Nasya* and Cervical Traction in the management of *Manyastambha*. (Cervical Spondylosis)

OBJECTIVES:

1. To study the effect of *Kshirbala Taila Nasya* and Cervical Traction in *Manyastambha*.
2. To find out the reduction in cardinal signs of *Manyastambha viz- Stambha* (Stiffness), *ruka* (pain) by *Nasya Karma* using *Kshirbala Taila*.
3. To find the reduction in cardinal signs of *Manyastambha* viz- *Stambha* (Stiffness), *ruka* (pain) by cervical traction.
4. To compare the effect of *Nasya* Karma with *Kshirbala Taila* and Cervical Traction in *Manyastambha*.

MATERIALS & METHODS:

This study has been conducted at Mahadevrao Shivankar Ayurvedic Medical College, Hospital and Research Institute, Gondia. An institutional ethics approval been taken before initiation of the study. It is a comparative study of *Nasya Karma* using *Kshirbala Taila* and Cervical Traction in the management of *Manyastambha*. Total 30 patients were selected in each group and group A were subjected to *Nasya Karma* and Group B were subjected to Cervical Traction.

Group A – *Nasya Karma* for 2 weeks (14 days)

Group B - Cervical Traction for 2 weeks (14 days).

Total duration of study was for 30 days. Follow ups were taken on Day 21 and Day 30.

Inclusion Criteria:

Patients having the signs and symptoms of *Manyastambha* between the age group of 20 -70 years of either sex.

1. Patients fit for cervical traction with Limitation of Cervical spine range of motion, Cervical Spondylosis, Cervical Radiculopathy.Patient willing for the treatment of *Nasya* and *Nasyaahraya*.

Exclusion criteria:

1. Patients with major disorders that is traumatic, infective and neoplastic conditions of spine, Congenital anomalies involving the Cervical-spine, Viral infections like Polio Myelitis, Transverse Myelitis, Bacterial infections like TB spine, Demyelinating diseases, Fibromyalgia, Motor neuron diseases that interfere with the course of treatment were excluded from the study. Patients undergoing other modalities of treatment for *Manyastambha* were excluded.

Table No.1 Group management:

Particular	Group A	Group B
Treatment given	*Nasya*	Cervical Traction
Purvakarma	*Snehana* and *Mrudu Svedana* of *Griva Pradesh, Mukha Pradesh*.	Ornaments removed from neck region and patient is lie in supine position.
Pradhanakarma	*Kshirbala Taila Nasya*	Cervical Traction with tractive force - $1/10^{th}$ body weight of patient.
Paschata Karma	*Gandusha(Hot water)*	The patient is lied in lateral position for 5 minutes
Pathya-Apathya	Advised as per work and food habits	Advised to patient as per work and food habits.

Standard Operative Procedure of *Nasya* - Group (A)

Purvakarma: *Bahya Snehana* by application of *Tila Tail* in *Manyapradesh, Mukha Pradesh* and *Mrudu Svedana* in the form *Tapa Sveda* by cotton cloth squeezed after dipped in hot water were done.

***Pradhana Karma*:**

- *Nasya* were given between 4- 6 pm.
- Patient is lied down in comfortable supine position on Table and head low position were made with the help of pillow. Head is neither be excessively flexed or extended. A range of 30° to 60° extension is made during administration of *Nasya* drops.
- Administration of *Kshirbala Taila Nasya* 8 drops (0.4ml) in each Nostrils.
- The palms and sole of the patient are rubbed well with hands.
- Patient is asked to lie down in same position for 100 *matrakala* and spit out the secretions reaching the mouth and not to swallow it.
- Patient were observed for *Nasya Samyakadi Lakshana*.

***Paschat Karma*:**

- *Mrudu Abhyanga* and *Tapa svedana* were done of the *Manya* and *Mukha Pradesh*.
- *Gandusha- Gandusha* were done with hot water.
- Patient is advised to avoid polluted air, bath, excitement and contraindicated food.

Assessment Criteria

1) ***Stambha*** (Stiffness in the Neck)

Movements Grade	
Freely movable	0
Movable with pain	1
Movable with pain to lesser range	2
Partial or no movement possible	3

2) *Ruka* (Pain) Table no.2 Type of Pain

Type of Pain	Score	Grade
Absent	0	0
Mild Pain	1 - 4	1
Moderate Pain	5 - 8	2
Severe Pain	9 - 10	3

Table no.3 Numeric Rating Scale :

(patient is asked to enter the number in the column "0-10 Numeric Pain Intensity scale")

0	1	2	3	4	5	6	7	8	9	10
No pain										Worst pain imaginable

OBSERVATION & RESULTS:

Specially designed Case Report Form (CRF) was used to fill the all basic as well as clinical information of the patients. Patients were examined prior to the start of treatment with respect to the Performa.

Table No.4 Gender Wise Distribution of Patient of *Manyastambha*:

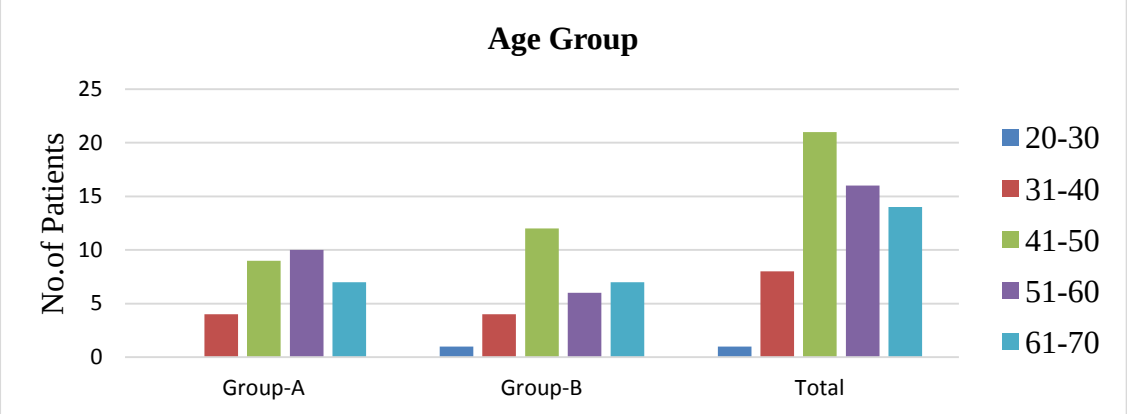
Sex	**Group-A**	**Group-B**	Total	Percentage
Male	21	17	38	63.33
Female	09	13	22	36.67

In this study, totally 38 [63.33%] were male & 22[36.67%] were female while more male was recruited in Group-A it may be due random selection of patients.

Table No.5 Age Wise Distribution of Patient of *Manyastambha*:

Sr. No.	**Age group**	**Group-A**		**Group-B**		**Total**	
		No. of Patient	%	No. of Patient	%	No. of Patients	Percentage %
1	20-30	0	0.00	1	3.33	1	1.67
2	31-40	4	13.33	4	13.33	8	13.33
3	41-50	9	30.00	12	40.00	21	35.00
4	51-60	10	33.33	6	20.00	16	26.67
5	61-70	7	23.33	7	23.33	14	23.33
	Total	**30**	**100.00**	**30**	**100.00**	**60**	**100.00**

Graph 1. Age Wise Distribution of Patient of *Manyastambha:*

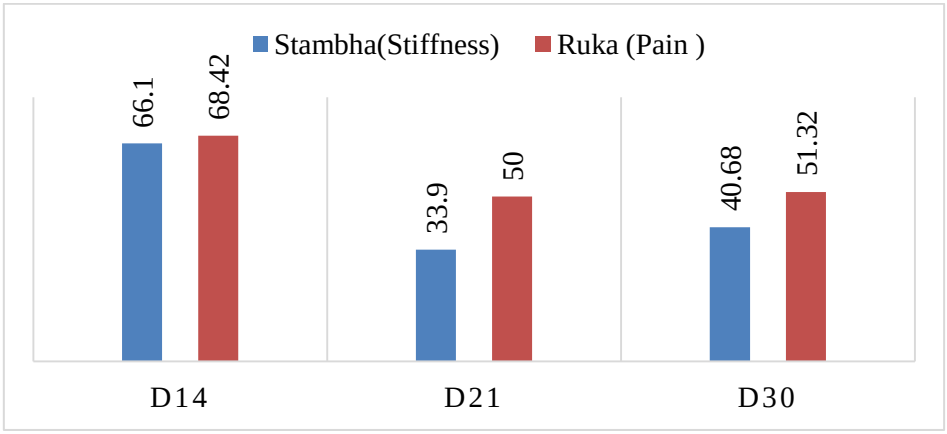


CLINICAL OBSERVATIONS:

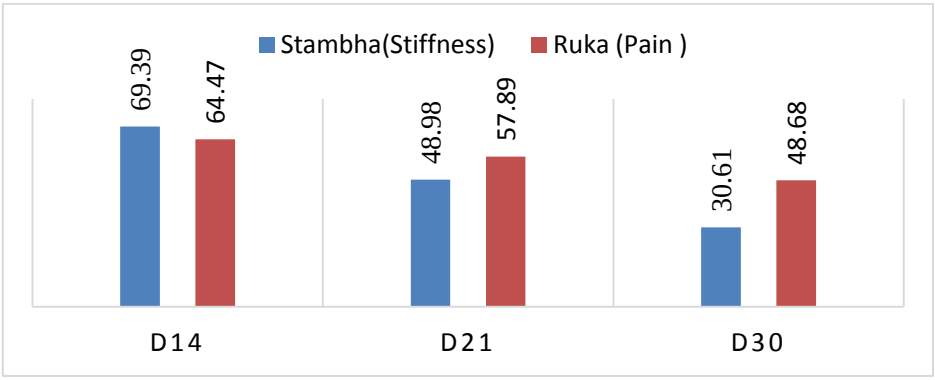
Table No.6 Percentage of Relief (Subjective Criteria) in Each Symptom of 60 Patients of *Manyastambha:*

Sr. No	Symptoms	Group-A			Group-B		
		D14	D21	D30	D14	D21	D30
1	*Stambha*(Stiffness)	66.10	33.90	40.68	69.39	48.98	30.61
2	*Ruka* (Pain)	68.42	50.00	51.32	64.47	57.89	48.68

Graph 2: Showing follow up wise percentage of relief in Group-A



Graph 3: Showing follow up wise percentage of relief in Group-B



Friedman Test (Repeated measure non parametric tests) for subjective criteria of Manyastambha in Group-A:

1. Stambha(Stiffness) Table No.7

Stambha (Stiffness)	D0	D14	D21	D30	Fr Statistics	P Value
Sum of Ranks	108.5	45	76.5	70	55.89	<0.001
Mean ± SD	1.96±0.66	0.66±0.60	1.3±0.53	1.16±0.64		
Median	2	1	1	1		

In Symptom, *Stambha*(Stiffness) on every follow up i.e. Day 14,21 and 30 days it was observed that there is significant difference of intervention statistically as p value obtained was <0.001 which is considered as highly significant. Further comparison done within each follow up by Dunn's multiple comparisons test.

Table No.7a Dunn's multiple comparisons test

Sr.no	Comparison	Rank sum difference	p value	Result
1	D 0 vs D 14	63.5	<0.001	***
2	D 0 vs D 21	32.0	< 0.01	**
3	D 0 vs D 30	38.5	<0.001	***
4	D 14 vs D 21	-31.5	< 0.01	**
5	D 14 vs D 30	-25.0	>0.05	NS
6	D 21 vs D 30	6.5	>0.01	NS

The effect was seen significantly different as compare to Day 0 and Day 14, Day 0 and Day 21, the difference is also significant on day 0 and 30, day 14 and Day 21as p value obtained was <0.01 which shows statistically highly significant. There was no difference observed between Day 14 and Day 30, Day 21 and Day 30.

1. ***Ruka*(Pain) Table No.8**

***Ruka*(Pain)**	**D0**	**D14**	**D21**	**D30**	**Fr Statistics**	**P Value**
Sum of Ranks	114.5	50	70	65.5	56.33	<0.001
Mean ± SD	2.53±0.57	0.8±0.71	1.26±0.63	1.23±0.56		
Median	3	1	1	1		

In Symptom *Ruka*(Pain) on every follow up i.e Day 14,21 and 30 days it was observed that there is significant difference of intervention statistically as p value obtained was <0.001 which is considered as highly significant. Further comparison done within each follow up by Dunn's multiple comparisons test.

Table No.8a Dunn's multiple comparisons test

Sr.no	Comparison	Rank sum difference	p value	Result
1	D 0 vs D 14	64.5	<0.001	***
2	D 0 vs D 21	44.5	< 0.001	***
3	D 0 vs D 30	49.0	<0.001	***
4	D 14 vs D 21	-20.	>0.05	NS
5	D 14 vs D 30	-15.5	>0.05	NS
6	D 21 vs D 30	4.5	>0.05	NS

The effect was seen significantly different as compare to Day 0 and Day 14, Day 0 and Day 21, the difference is also significant on day 0 and 30, as p value obtained was <0.001 which shows statistically highly significant. There was no difference observed between Day 14 and Day 21, Day 14 and Day 30, Day 21 and Day 30.

Friedman Test (Repeated measure non parametric tests) for subjective criteria of *Manyastambha* in Group-B:

1. *Stambha*(Stiffness) Table No.9

Stambha (Stiffness)	**D0**	**D14**	**D21**	**D30**	**Fr Statistics**	**P Value**
Sum of Ranks	103	49.5	67.5	80	39.53	<0.001
Mean ± SD	1.63±0.55	0.5±0.57	0.83±0.74	1.13±0.57		
Median	2	0	1	1		

In Symptom, *Stambha*(Stiffness) on every follow up i.e Day 14,21 and 30 days it was observed that there is significant difference of intervention statistically as p value obtained was <0.001 which is considered as highly significant. Further comparison done within each follow up by Dunn's multiple comparisons test.

Table No.9a Dunn's multiple comparisons test

Sr.no	**Comparison**	**Rank sum difference**	**p value**	**Result**
1	D 0 vs D 14	53.5	<0.001	***
2	D 0 vs D 21	35.5	< 0.01	**
3	D 0 vs D 30	23.0	>0.05	NS
4	D 14 vs D 21	-18.0	>0.05	NS
5	D 14 vs D 30	-30.5	<0.05	*
6	D 21 vs D 30	-12.5	>0.05	NS

The effect was seen significantly different as compare to Day 0 and Day 14, Day 0 and Day 21, the difference was not found significant on day 0 and 30, day 14 and Day 21as p value obtained was >0.05 which shows statistically not significant. There was no difference observed between Day 21and Day 30.

2. *Ruka*(Pain) Table No.10

***Ruka*(Pain)**	**D0**	**D14**	**D21**	**D30**	**Fr Statistics**	**P Value**
Sum of Ranks	115	53	62	70	53.60	<0.001
Mean ± SD	2.53±0.57	0.9±0.54	1.06±0.69	1.3±0.59		
Median	3	1	1	1		

In Symptom *Ruka*(Pain) on every follow up i.e. Day 14,21 and 30 days it was observed that there is significant difference of intervention statistically as p value obtained was <0.001 which is considered as highly significant. Further comparison done within each follow up by Dunn's multiple comparisons test.

Table No.10a. Dunn's multiple comparisons test

Sr.no	**Comparison**	**Rank sum difference**	**p value**	**Result**
1	D 0 vs D 14	62	< 0.001	***
2	D 0 vs D 21	53	< 0.001	***

3	D 0 vs D 30	45	< 0.001	***
4	D 14 vs D 21	-9	>0.05	NS
5	D 14 vs D 30	-17	>0.05	NS
6	D 21 vs D 30	-8	>0.05	NS

The effect was seen significantly different as compare to Day 0 and Day 14, Day 0 and Day 21,the difference is also significant on day 0 and day 30, as p value obtained was <0.001 which shows statistically highly significant. There was no difference observed between Day 14 and Day 21, Day 14 and Day 30, Day 21 and Day 30.

Table No.11 Showing Comparison between Two Group w.r.t Symptoms of 60 Patients of *Manyastambha* By Mann-Whitney 'U' Test

No	**Symptoms**	**Mean ± SD**		**Statistics**		**P Value**
		Gr-A	**Gr-B**	**U'**	**U**	
1	*Stambha*(Stiffness)	0.80±0.66	0.50±0.73	534	366	0.2108
2	*Ruka* (Pain)	1.30±0.70	1.23±0.77	464.5	435.5	0.8377

The Difference between score of both Groups compared by 'Mann-Whitney U-Test'. It was found that the sum of rank of Group-B for the symptom *Stambha* U' statistics was 534, Test statistic (U) was 366, where the test statistic U not lies between Population Mean ±1.96 SD which was not significant statistically. (p>0.05) Therefore the difference between Symptom Score of *Stambha* of Group-A & Group - B is statistically not significant, so therefore we can conclude that in the symptom *Stambha* intervention of both groups having equal effect.

In symptoms like *Ruka* 'U' statistics was 464.5 and the test statistics U was 435.5 which was not lies between Population Mean ±1.96 SD which was not significant statistically. (p>0.05).

Therefore, the difference between Symptom Score of *Ruka* of Group-A & Group - B is statistically not significant, so therefore we can conclude that in the symptom *Stambha* intervention of both groups having equal effect. After comparison of both Group there was no significant result was noted in both group as p value was not significant in symptoms of *Manyastambha*.

Table No.12Total Effect of therapy in 60 Patients of *Manyastambha* :

Sr. No	**Effect of Therapy**	**No. of Patients**			**Percentage %**		
		Gr-A	**Gr-B**	**Total**	**Gr-A**	**Gr-B**	**Total**
A.	Complete Relief (100% relief)	03	00	03	10.0	0.0	5.0
B.	Marked Improvement >75% to <90% relief	08	01	09	26.7	3.3	15.0
C.	Moderate Improvement >50% to 75% relief	12	25	37	40.0	83.3	61.7
D.	Mild Improvement >25% to <50% relief	05	03	08	16.7	10.0	13.3
E.	Unchanged <25% relief	02	01	03	6.7	3.3	5.0

In Group-A, 03 (10%) patients completely improved, 08(26.7%) patients were marked improved, 12(40%) patient were having moderate improvement, 05(16.7%) were having mild improvement while 02(6.7%) patient were having no improvement.

In Group-B, no patients completely improved, single patient marked improved, 25(83.3%) patient were having moderate improvement, 03(10%) were having mild improvement while 01(3.3%) patient was no improvement.

Totally, 03 (5%) patients completely improved, 09 (15%) patients were marked improved, 37(61.7%) patient were having moderate improvement, 08(13.3%) were having mild improvement while 03(5%) patient were having no improvement.

DISCUSSION:

Mode of Action of intervention:

Nasya Karma, being the treatment of choice in *Urdhvajatrugata Vata Vyadhis*, is adopted in the management of *Manyastambha*. Specific posture during *Nasya karma*, like the lowering of the head, fomentation of face seems to have an impact on blood circulation of the head and face. According to *Sushruta*, *manya* is a *marma* existing in neck on either side of trachea which likely corresponds to the carotid sinus of neck on the bifurcation of common carotid artery. Drug administered through nose -the doorway to Shira reaches the *Shringataka marma* of Head (Shira), which is a *siramarma* and formed by the *siras* of nose, eyes, *kantha* and *shrotra* the drug spreads by the same route scratches the morbid *Doshas* of *Urdhwajatru* and extracts them from the *Uttamanga*.

Traction is commonly used in the cervical spine to relieve pressure on the cervical nerve roots in patients with disc herniations, degenerative disc disease and spinal stenosis. Cervical traction is done either lying flat or sitting and uses weights to add distraction pressure to the neck. Cervical traction is used for a number of cervical spine injuries including cervical herniated nucleus pulposus, radiculopathy, strains, zygapophyseal joint syndromes and myofascial pain. Pain relief may occur through one of several mechanisms, including: rest through immobilization and support of the head, distraction of the zygapophyseal joints and associated improved nutrition to the articular cartilage, tightening of the longitudinal ligament and decreasing intradiscal pressure (both of which press a bulging disc more centrally), relieving nerve root pressure via increased foraminal diameter, improving head posture, and elongating muscles to improve blood flow and reduce spasm.

CONCLUSION:

Cervical Spondylosis is chronic disorder need the skilful managements. It was observed that as the treatment finishes the effect of intervention remains and as the duration increase after the treatment the symptoms remerges. On day 14 the percentage of relief was seen more as compare to Day 30. In both group there was relief in both symptoms of *Manyastambh* i.e. *Stambha* (Stiffness) & *Ruka* (pain) and it was statistically found significant. After comparison of both Group there was no significant result was noted in both group as p value was not significant in symptoms of *Manyastambha*. Study can be done taking *Nasya* along with any medicine further on more patients. *Nasya* and physiotherapy can help to improve further.

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