

## A REVIEW OF RESEARCH PAPERS ON NASYA KARMA IN CERVICAL SPONDYLOSIS PUBLISHED DURING 2010-2020

Sreekala A. P.\*<sup>1</sup> Anup B. Thakar<sup>2</sup> and Nilesh N. Bhatt<sup>3</sup>

<sup>1</sup>PhD scholar, Department of Panchakarma, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar.

<sup>2</sup>Director, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar.

<sup>3</sup>Panchakarma physician, Department of Panchakarma, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar.

Article Received on  
09 November 2020,

Revised on 30 Nov 2020,  
Accepted on 21 Dec. 2020

DOI: 10.20959/wjpr20211-19527

### \*Corresponding Author

**Dr. Sreekala A. P.**

PhD scholar, Department of  
Panchakarma, Institute for  
Post Graduate Teaching and  
Research in Ayurveda,  
Gujarat Ayurved University,  
Jamnagar.

### ABSTRACT

**Introduction:** Cervical Spondylosis is a degenerative condition of cervical spine, which comes under the Apatarpanajanya vyadhi as per Ayurveda and it need management in the form of nourishing therapy.

The symptoms of this can be correlated to many diseases according to ayurveda, like manya sthambha, astigata vata etc **Materials and method:** Nasya is an effective therapy for Cervical Spondylosis, and a lot of research work has been carried out regarding this. Among these, those published during 2010-2020 were collected and those fulfilling the criteria for a scientific paper were selected and reviewed for this study. Total nine papers were scrutinized and drawn conclusions.

**Discussion and conclusion:** eight out of nine trials were done with *snehana Nasya* and in a comparative trial involving *shamana* and

*brimhana Nasya* showed significantly no difference in between. Drugs which are brimhana or shamana can be used for Nasya, preferably oils prepared with *kapha vata shamana* drugs or *avarti taila*, for the management of Cervical Spondylosis Standardization of procedure and dosage of *Nasya* will give safe and effective mode of administration.

**KEYWORDS:** Cervical Spondylosis, *Astigata vata*, *manya stambha*, greeva graha, *Nasya*, *Snehana Nasya*.

## INTRODUCTION

Cervical Spondylosis is a degenerative condition of cervical spine which affects mainly the middle and old age group, irrespective of sex. In the current scenario of technological world everyone live a mechanical life, wear and tear happen consequently, cervical spine degeneration is one among those. 85% of individuals over the age of 60 show some evidence of degenerative changes.<sup>[1]</sup> 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.<sup>[2]</sup> In Ayurveda, Cervical Spondylosis as such is not mentioned but it can be discussed under different headings like *astigata vata*, *manyastambha*, *viswachi*, *grevagraha*, *greeva huntana* etc.

In Ayurveda treatment is divided into two mainly *Brimhana* (Nourishing therapy) and *Lamghana* (depleating therapy) based on the fact that there were only two kinds of diseases *Santharpanajanya* and *apatarpanajanya*.<sup>[3]</sup> Degeneration is an implication of *Apatarpana*, which is the pathological entity behind Cervical Spondylosis, so management of this will obviously include nourishing (*Brimhana*) therapies. Management of Cervical Spondylosis in Ayurveda include a spectrum of therapies, among those *Nasya* may be the most effective one, because the area where *Nasya* act (*Urdhwa jatru*) is the same where Cervical Spondylosis affects. Neuro endocrinal action of *Nasya* helps to tackle neck pain by acting over neuro-peptides. *Nasya* is specifically indicated in the management of *Urdhvajatrugata Vikaras*<sup>[4]</sup> in classics of Ayurveda, moreover Acharya Charaka indicated *Nasya* exclusively for the management of *Manyastambha*.<sup>[5]</sup> *Nasya* is proved to be effective in wide spectrum of diseases clinically, also nasal drug delivery will have speedy action as it bypasses the portal system. A lot of works were carried out over the role of *Nasya* in Cervical Spondylosis, under different backgrounds. It's high time to summarize these data which will help to fill the lacune.

## MATERIALS AND METHODS

Various research papers in *Nasya* karma in Cervical Spondylosis, published in different international journals during a period of 10years (2010-2020), which are available in different search platforms were collected, among these, those papers which followed a proper format for a scientific paper were selected and reviewed to revalidate the conceptual aspects of *Nasya* in Cervical Spondylosis.

## OBSERVATIONS AND RESULTS

Total nine studies were selected from the articles published during the period 2010-2020, and studied.

### Trial 1 (2013)

In this trial total eight patients were registered, among them 1 drop out, was there and 7 patients completed the overall trial. *Griva Basti* with *Prabhanjana Kuzhambu* and *Sahacharadi Taila* for 10 days, *Patra Pottali Sweda* and *Nasya* with *Dhanvantaram 101 avarti* (8drops in each nostril) for 10 days and internally *Dashamoola Kashaya* 15 ml twice daily with warm water<sup>[6]</sup>, were given. The test is significant at 81.26% with  $p < 0.01$ . Overall results show that 5 among 7 patients showed significant improvement. Moderate response and mild response were seen in 1 patient each.

### Trial 2 (2015)

This was a comparative clinical study with pre- post test design Total 40 patients were registered, and divided into 2 groups of 20 each. First group /group A was given *Nasya* with *prasarani taila* (dose: 8 drops) for *shamana* purpose and second group /group B was treated with *Nasya* using *ksheerabala taila 101 avarti* (dose: 8 drops) for *brimhana* purpose<sup>[7]</sup> and these two groups were compared. Highly significant improvement were noted in subjective and objective criteria within the group assessment but there were no significant difference noted in between groups while comparing.

### Trial 3(2016)

Total 60 participants registered and they were divided into two groups (30 each) randomly. Trial Group was given *Panchatiktaghrita Guggulu*<sup>[8]</sup> (500mg bd) orally along with *Nasya* with *Anu taila* (8drops in each nostril) for 21 days. While in the Control Group, only *Nasya* with *Anu taila* was given for 21 days. Effect of therapy was comparatively more significant in Trial Group (*Panchatiktaghrita Guggul* with *Nasya*) than control group (only *Nasya*). Patients were assessed on the basis of Neck Disability Index. The mean of difference of Pain intensity for trial Group was  $3.70 \pm 0.54$  and for Control Group it was  $3.03 \pm 0.61$ . Statistical analysis was further carried out by Mann-Whitney U test, and Z was 3.659,  $P < 0.001$  that means the result was highly significant.

**Trial 4 (2016)**

In present study 60 patients were registered and divided into two groups of 30 each randomly, among this trial group was given *Pradhamana Nasya* (with *Mocharasa churna*)<sup>[9]</sup> after local *Snehana* and *Swedana*, early morning for 7days. Control group was given local *snehana* and *swedana* alone for 7 days. Assessment was done on 3<sup>rd</sup> and 7<sup>th</sup> day by VAS scale (Visual analogue scale). In trial group 75.81% improvement was observed and in control group improvement was 37.05%. So the effect of therapy in trial group was highly significant.

**Trial 5 (2018)**

This is a case study. A 47yr old male, presented with complaints of pain in neck region which is radiating to both upper limbs especially to right side since 2 years which got aggravated since 3 months. For *Agnideepana Shaddharana Choorna*<sup>[10]</sup> given in a dosage of 1 tsp twice daily before food with warm water, for 3 days before *Nasyam*. *Brimhana Nasya* done with *Saptaprastha mahamasha Taila (Madhyama pakam)* 2 ml in each nostril for first 7 days. *Uttarabhakta Sneha*, given again with *Saptaprasthamahamasha Taila (Madhyama pakam)* 15ml at night after food with *Yusham* for 30 days after *Nasya*. Assessment done with Visual Analogue (VAS) Scale, Goniometer and Neck Disability Index (NDI) Scale before and at the end of 37 day. VAS before treatment was 8 and after it became 0. NDI before treatment value was 58%, and after test it became 2%. Assessment of range of movement also shows significant changes.

**Table 1.**

Flexion		Extension		Lateral bending (Rt)		Lateral bending (Lt)		Lateral Rotation (Rt)		Lateral Rotation(Lt)	
Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
30	70	10	70	20	25	20	25	20	80	25	90

**Trial 6 (2019)**

It is a comparative clinical study in which 10 Patients, were selected and randomly assigned into 2 groups, Group A and Group B comprising of 5 patients in each. Group A was given *Nasya Karma* with *Kukkutanda Pinda Sweda*<sup>[11]</sup> & Group B only *Nasya Karma*. *Nasya* done with *AnuTaila* 12 drops in each nostril. Mean difference of Group A was 1.1 with SD 0.87 and in Group B mean difference was 0.9 with SD 0.56. Before and after treatment,  $P < 0.001$ , statistically highly significant between the groups.

**Trial 7 (2017)**

This is a case series, five clinically diagnosed cases of Cervical Spondylosis were selected and given *Nasya* for 7 days (*Anutaila* for first 3 days + 101 *Avartita Kshirabala Taila* for next 4 days) in a dose of 6 drops (1 drop-0.05 ml) in each nostril, without any oral intervention.<sup>[12]</sup> Assessment were carried out based on subjective and objective (Visual analogue scale (VAS), Neck disability index (NDI), Range of movement) criteria. Mean score of Pain before treatment was 3.8 and after treatment it became 1.0. Similarly stiffness before treatment was 2.4, and it became 0.8 after treatment. Mean score of Headache before treatment 3.3, and 2.3 after treatment. Mean score of Giddiness before treatment 1.0 and 0.0 after treatment, In Tingling sensation Mean score before treatment was 1.0 and 0.5 after treatment, in Numbness Mean score before treatment was 1, and it became 0.2 after treatment. In objective parameters mean score was like this.

**Table 2.**

S.N.	Objective criteria	Meanscore		percentage
		BT	AT	
1	NDI	22	5.4	75.45
2	VAS	5.2	1.2	76.92
3	Flexion	2	0	100
4	Extension	2	0.8	60.5
5	Lateral rotation	1.2	0	100
6	RF	2	0.2	90.5
7	LF	1.8	0.2	88.89

**Trial 8 (2019)**

The study was an open label, single arm clinical trial, total 30 patients were selected using purposive (non –random) sampling technique and analysis done by pre post-test design. *Nasya karma* was done by instilling 16 *Bindu* of *Shuddhabala Taila* for 7 days.<sup>[13]</sup> Data was collected on the 1st day before treatment and 7th day after treatment. Mean score of neck Pain before treatment was 2.70, after treatment it became 0.43, and after follow up it was 0.17, similarly the mean score of Radiation of pain before treatment was 2.43 after treatment 0.30, and after follow up 0.03 in case of Stiffness mean score before treatment was 1.67 after treatment 0.07, and after follow up 0.03. For Weakness mean score before treatment was 1.40 after treatment 0.00, and after follow up 0.00. Like this statistically significant results were obtained with  $p < 0.05$  for the objective parameters and  $p < 0.001$  for the subjective parameters. One observation can be noted from this study is increased working hours found to be associated with the high incidence of cervical spondylosis.

**Trial 9 (2020)**

This is a Randomized controlled clinical trial. Total 36 patients were registered in the study. There were one dropout in study group and two dropouts in control group. Total duration of treatment was 21days and 1 month follow up. The first 14 days, both the groups were given *Rooksha Sveda* for 7days and followed by *Patra Pottali Sveda* for 7days. During this period, 90 ml *Gandharvahastadi Kashay*, twice and *Guggulu Tiktaka Kashaya* once were given internally.<sup>[14]</sup> After this, in the *Nasya* group it was done for 7days with *Dhanwantaram Tailam* (21times *Aavartita*), *Mridu Paka* in *Madhyama Matra* (8*Bindu*). Along with this *Guggulu Tiktaka Kashaya* was given thrice. In the control group, *Guggulu Tiktaka kashaya* alone was given thrice daily. Assessments were done with subjective and objective criteria. In Control group, the mean decrease of pain was found to be 1.3 ( $P<0.01$ ). In *Nasya* group, mean decrease was 3.5. The difference was significant with ( $P<0.001$ ). Before and after *Nasya*, a mean decrease of 2.8 was obtained. This was significant with ( $P<0.001$ ). Similarly highly significant changes noted in case of tenderness, radiation of pain and numbness. Significant changes observed in range of movement of cervical spine and hand grip also.

**Commonly found observations**

The disease affects mainly middle age group, prevalence is highest among the age group 40-50. Mostly females are prone to develop Cervical Spondylosis as per statistics. The type of *Nasya* used was *snehana* in eight out of nine works, this is an implication that the degenerative nature of disease itself demands nourishing therapy. *Paka* of *taila* used for *Nasya* in all of the trials were either *madhyama* or *mridu*. Standardization of *bindu* used for *Nasya* was done in only 2 trials. Total duration of *nasya* was 7 days in 7 trials. Procedure of *Nasya* followed the classical/conventional strategy, lacking a standardization of the same. Along with *Nasya* different applications of *sneha* and *sweda* were also found effective, indicating the role of *vata* in the pathology of Cervical Spondylosis.

**DISCUSSION**

The prevalence of Cervical Spondylosis is increasing day by day. Sedentary life style with lack of exercise contribute a lot to this. Although it is the disease of aging, improper postures during work, jerky movements while in vehicles, inappropriate food habits etc made it common among young people also. But as per statistics, middle aged were affected more, this is because age related metabolic changes might have contributed more in degeneration in the middle aged. Cervical Spondylosis is not mentioned in Ayurveda directly, still the symptoms

of which can be correlated to many diseases according to ayurveda, like *manya sthambha*, *manya graha*, *geeva graha*, *greeva huntana*, *astigata vata* etc. As it is a degenerative disorder (dhatukshaya janya), it can be considered as a *vatika* disorder but its site (cervical) is predominant seat of *kapha*, so for selecting a better treatment strategy for Cervical Spondylosis one should always think of a treatment which can pacify both *vata* and *kapha* and the best one may be *Nasya*. Modern research works point out to the existence of naso-brain pathway which is the fastest promising drug delivery route. To enable fastest drug absorption directly to the brain, drug has been believed to be absorbed through arachnoid matter sleeve which extends along olfactory nerve.<sup>[15]</sup> The procedure *Nasya* has one more advantage over Cervical Spondylosis as *Nasya* is specially indicated for the management of *urdhwa jatru vikara*. *Taila* is described as the best choice for *Nasya Karma* in *Kapha-Vata Pradhana* condition.<sup>[16]</sup> A lot of research work has been carried out regarding this. Summarizing and analyzing of this data will bring fourth light to this area for further studies.

By analyzing the *Nasya karma* in above trials, eight out of nine trials were carried out with *sneha*, and among them also *avarti sneha* like *Dhanwantharam* (21) *avarti*, *Anutaila* etc were used more. This implies *sneha* will act as *vatahara* and *brimhana* (nourishing), but the disease demands *kapha shamana* also, even though *snigdha* (unctuous), *avarti snehas* are having *theekshna* (penetrating) property also. So application of *avarti sneha* will help to pacify both *vata* and *kapha*, and will bring about *shodhana* action. In one of the trial combined application of *shodhana nasya* with *anutaila* followed by *Snehana Nasya* with (*Kshirabala 101 avarti*) also provided significant results. Anti-inflammatory effect of *Ksheerabala taila* was utilized here as its *Nasya* application. Studies reported the anti-inflammatory effect of *Kshira Bala Taila*, which was comparatively more in *Mridu* and *Madhyama paka* and it was equally effective as Diclofenac and NSAIDS.<sup>[17]</sup> *Pradhmana Nasya* also used in one trial, which have a strong *kapha hara* action and the drug used was powder of *mocharasa*, which is one among ten drugs in *vedana sthapaka gana*. So by the end of assessment of drugs for *Nasya*, it may be concluded that, *kapha vata hara*, *theekshna* and *ushna* drugs can be selected for *Nasya* in Cervical Spondylosis.

While assessing the dose of *Nasya*, Standardized *bindu* dosage was used only in three trials, others did not mention the standardization. Total duration of *Nasya* was 7 days in seven out of nine trials. *Paka* of *taila* used were either *madhyama* or *mridu*, the peculiarity of these two is that an optimum level water-soluble principles will retain along with lipid soluble particles.

This will help in absorption of active principles through olfactory epithelium ie water solubility helps for diffusing through the olfactory epithelium and lipid solubility for interacting with the lipids of the membranes of olfactory receptors. These factors helps to contribute the specific ability of *Sneha Nasya* in stimulating the brain through olfactory pathway. In fact, structures of the Limbic system including Thalamus, Hypothalamus, Hippocampus, Amygdala and parts of the Basal ganglia are concentration areas for neuropeptides called nodal points. Nasya can stimulate areas like Amygdala in Limbic system, thus activating neuropeptide pathway.

The procedure of *Nasya karma* adopted in all the trials were classical/conventional only, still a lack of uniformity can be noticed. A well prepared standardized protocol of *Nasya karma* is the need of the hour sothat safe and accurate mode of application can be assured. Standardization of *Nasya* procedure has to be performed including points like positioning of head of patient during *Nasya karma*, standardization of *hastaswedana* technique which may provide facial efferent stimulation.<sup>[18]</sup> It's obvious from all the above trials either alone or done with other procedures *Nasya* brought about pain relief in Cervical Spondylosis. This is because *Nasya* gives stimulation to the brain through the olfactory pathway thus inducing the production of neuro-peptides which act as pain relievers. The neuro endocrinal action of *Nasya* is a proved one. Pathology of Cervical Spondylosis involves not only degeneration but also inflammation, this will produce pain and swelling in the initial stages, muscular spasm and stiffness also may be associated in most cases. Here *Nasya* will act as anti –inflammatory agent. On a Comparison between *shamana* and *brimhana Nasya* both showed no significant difference in action and both were effective. From this we can conclude that for tackling *vata Brimhana* itself will act as *Shamana*.

Many a times *sneha swedas* are equally effective with *Nasya*, as the condition is *vatakapha* dominant one. Moreover this will help in relieving para-vertebral muscle spasm, Strengthens Para-vertebral muscles and inter vertebral discs will repair damaged myelin sheath, and local anti- inflammatory effect also can be noted *Patra pottali Sweda* found to have an action on relieving *Avarana* by *Kapha dosha*. Local applications like *greeva vasti/manyu vasti* found effective in managing muscular spasm, stiffness etc. Internal administration of *sneha* was also found effective in Cervical Spondylosis especially *uttarabhakta sneha*, which is a unique mode of *snehapana* indicated specifically in diseases of upper part of body.<sup>[19]</sup> This is also indicative of relevance of *Brimhana* therapy in this particular disease of degenerative origin.

## CONCLUSION

From analysis of nine trials it became clear that *Nasya* karma either alone or with other supportive therapies brings about promising results in Cervical Spondylosis. This may be noted that eight out of nine trials were *snehana Nasya* so it can be concluded that best choice of *nasya* in Cervical Spondylosis will be *snehana Nasya* only. *Shamana* and *brimhana Nasya* found equally effective in action. Drugs which are *brimhana* or *shamana* can be used for *Nasya*, preferably oils prepared with *kapha vata shamana* drugs or *avarti taila*. Standardization of procedure and dosage of *Nasya* will give safe and effective mode of administration. Therapies blended with *Nasya* will give an add-on effect in Cervical Spondylosis.

## REFERENCES

1. Kuo DT, Tadi P. Cervical Spondylosis. [Updated 2020 Jul 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK551557/>
2. Singhal BS. Neurology. In: Sainani GS, editor. API Textbook of Medicine. 6th ed., Sec. 12. Mumbai: Association of Physicians of India, 1999; 28: 829.
3. Acharya Vagbhata, Ashtanga Hrdaya, with the Sarvanga Sundara Commentary by Arunadatta and Ayurvedarasayana by Hemadri, Varanasi: Chaukhambha Sanskrit sansthan; Reprint, 2015. Sutrasthana 14/1 P222.
4. Vrudha Vagbhata, Astanga Sangraha, Shashileka Sanskrit commentary by Indu, edited by; Dr. Shivprasad sharma, chaukhambha orientalla, Varanasi, Reprint, Sutra sthana, chapter 31, 3<sup>rd</sup> sloka, 2015; 223.
5. Acharya Charaka, Charaka Samhita with Vyakhya of Chakrapanidatta, Reprint 2011, Sutra Sthana Ch. 5, sloka. 59. Varanasi: Chaukhambha Orientalia, 2011; 41.
6. Shettar RV, Bhavya BK Evaluation of Combined Efficacy of Greeva Basti, Patra Pottali Sweda and *Nasya* in the Management of Cervical Spondylosis: A Pilot Study. J Homeop Ayurv Med., 2013; 2: 137. doi:10.4172/2167-1206.1000137.
7. Rohit Mehta, A Comparative Clinical Study of *Shamana Nasya* and *Brimhana Nasya* in Cervical Spondylosis, Chief Consultant, Kottakkal Arya Vaidya Sala, Kota, Rajasthan, 2015.
8. Bhalchim Yogita Ganpat, Bhivgade H S, Kabra P R, Chawre S V, A Clinical Study on the Management of *Manyagraha* with Specific Reference to Cervical Spondylosis by *Nasya*

- with Herbo-Mineral Drug, Kayachikitsa Department, Govt. Ayurved College and Hospital, Nagpur, Maharashtra, India, 2016.
9. Rahul Shalikram Dudhe, Annapure S.V. Effect of Mocharasa Nasya with Snehana & Swedana in Neck, Shoulder and Arm Pain W.S.R. Pain in Cervical Spondylosis, Department of Shalyatantra, Government Ayurved College, Vazirabad, Nanded, Maharashtra, India, 2016.
  10. Tanwar SR, Thakar AB, Ramteke R. Clinical evaluation of Nasya Karma in cervical spondylosis: Case series. *Indian J Health Sci Biomed Res.*, 2017; 10: 335-9.
  11. S, Amritha S, Arun Pratap, Lekshmi R, and Miharjan K, "Effectiveness of Saptaprasthamahamasha Taila as Nasya and Uttarabhakta Sneha in Cervical Spondylosis: a Case Study" *International Journal of Research in Ayurveda and Pharmacy*, 2018; 9(3).
  12. K, Vishal Swamy, Vinaykumar K N, and Chaithra Ks, "Efficacy of Nasya Karma with Kukkutanda Pinda Sweda and Nasya Karma in the Management of Manyasthambha W.S.R to Cervical Spondylosis – a Comparative Clinical Study" *International Journal of Ayurveda and Pharma Research*, 2019; 7(10): 21-26.
  13. K, Devakrishnan, and Ramya V R, "A Clinical Study on Effect of Snehana Nasya in Vishwachi W.S.R to Cervical Spondylosis" *International Journal of Ayurveda and Pharma Research*, 2019; 7(7): 28-37.
  14. Radhika C, G. Vinod Kumar, K. Mihirjan, A Randomized Controlled Clinical Trial to Assess the Efficacy of Nasya In Reducing the Signs And Symptoms of Cervical Spondylosis Department of Kaya Chikitsa, Government of Ayurveda College, Thiruvananthapuram, Kerala, India, 2020.
  15. W.J, Hamilton; Text book of human anatomy. London; The Macmillian Press LTD. 2nd ed., 1976: 593.
  16. Acharya Sushruta, Sushruta Samhita, Chikitsa Sthana. With Nibandha sangraha by Dalhana Varanasi: Chaukhambha Orientalia Reprint 2014. *Dhumnasyakavalagrah chikitsa*, 2014; 40, Ver. 56: 559.
  17. Nair CG, Geethesh RR, Honwad S, Mundugaru R. A comparative study on the anti-inflammatory effects of trividha paka of Ksheerabala taila. *Int J Res Ayurveda Pharm.*, 2015; 6: 692-5. 25. Guyton Arthur C. Local control of blood flow by the tissue
  18. Devi. R. Nair; Scope of Research in Standardization of Panchakarma Procedures – A Critical Review; *Indian Journal of applied research*, 2017; 7: 307-308.

19. Acharya Vagbhata, Ashtanga Hridaya, with the Sarvanga Sundara Commentary by Arunadatta and Ayurvedarasayana by Hemadri, Varanasi: Chaukhambha Orientalia Publications; 9th ed. Sutrasthana, 2005; 16/22 P248.