

## **Comparative Evaluation of *DashamooladiYamaka Sneha* and *ShuddhaBalaTailaNasya* in the Management of *Vishwachi*(Cervical Radiculopathy)- A study Protocol**

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### **Abstract-**

**Background-** *Vishwachi* is one type of *Vatavyadhi*. In some *Ayurvedic* classics it is also considered as *UrdhvajatrugataVikara*. According to its symptoms, it is correlated with Cervical Radiculopathy. As per the previous researches Cervical Radiculopathy is the Chronic stage of Cervical spondylosis. In present era the numbers of people are with complaints of Cervical radiculopathy due to heavy work load, Dietary changes and life style modifications. This are the root causes of Cervical radiculopathy. *Nasya* is one of the *Panchakarma* Procedures. It is indicated for *Vishwachi*. So here, we planned to check the efficacy of *Nasya* on *Vishwachi*. This study is with aim of to study the effect of *DashamooladiYamaka Sneha Nasya* in the management of *Vishwachi* (Cervical Radiculopathy) and to achieve this aim our Objectives is to study the efficacy and compare of *DashamooladiYamaka Sneha Nasya* and

*ShuddhabalaTailaNasya* in Subjective and Objective criteria of *Vishwachi* (Cervical Radiculopathy). In this study total of 60 patients were recruited. Group A –will be given the intervention with *ShuddhaBalaTaila*, and Group B will be given the intervention with *DashamooladiYamak Sneha* 8—8 drops for seven days. Assessment will be done on 0 (baseline) and eight-day and compare the result. Subjective and objective outcomes will be statistically analyzed by appropriate methods. Conclusions will be drawn based on observations and results obtained in this study.

**Keywords:** *Vishwachi*, *Nasya*, Cervical Radiculopathy, *DashamooladiYamaka Sneha*, *ShuddhaBalaTaila*

## 1. INTRODUCTION

According to different *Acharyas* of *Ayurveda* there are 80 *VatajNanatmajaVyadhi*. *Vishwachi* (Cervical Radiculopathy) is one of the *VatajNanatmajaVyadhi*. It affects from *Bahupruthatha* (The back aspect of the upper limb) to *Talampratyangulinam* because of the vitiation of *Vata dosha* in all the *Kandaras* (Tendon) of *Hasta* (Arm) and *Bahu* (shoulder), *Bahuchesthaopaharani* (dysfunction of shoulder joint).<sup>1-3</sup> It means the condition in which *Vata dosha* gets aggravated from the posterior part of fingers and anterior part of *Prakoshtha* and *Kandara*, which reduces the motor neuron functions of the hand, is called *Vishwachi*. It occurs due to variations in *Ahara* and *Vihara* like *VataprakopakaAhara* and *Vihara* as *Rukshaahara*, *Ativyayam*, *Vegadharana* are the causative factors for *Vishwachi*. Radiating pain and restricted hand movement is the main *Lakshana* of *Vishwachi* (Cervical Radiculopathy).

*Vishwachi* (Cervical Radiculopathy) condition is increasing nowadays by Continuous working on computers, heavy weight lifting in the gym, Industries, Farming works etc. It affects the cervical region and causes symptoms of *Vishwachi* (Cervical Radiculopathy). In Modern Medicine, Analgesics, NSAIDs, and Corticosteroids are prescribed for cervical radiculopathy without a proper cure. It has to be taken in long-duration, which causes immunosuppressant due to steroids, and in severe cases, further surgery is to be indicated. To avoid the complications and adverse drug reactions of steroids and surgery,

this study is planned to evaluate the efficacy of *DashamooladiYamaka Sneha* with *Nasyakarma* in the Management of *Vishwachi*(Cervical Radiculopathy). As *Ayurveda Acharyas* have Mentioned, *Snehana*, *Swedana*, *Basti*, *Abhyanga* are also effective in *VatajVyadhis*, but all these procedures are time-consuming and expensive compared to *Nasyakarma*. And the ingredients are readily available and cost-effective. According to *Ayurveda* Perspective, *Mansa* and *Majja Dhatus* get highly vitiated in the Pathogenesis of *Vishwachi* (Cervical Radiculopathy). Such drugs should be selected to have higher Potency and Capacity to probe the deeper tissue. Considering the chronic nature of the disease and fulfilling the above need *Yamaka Sneha* is chosen as a primary intervention drug.

By inducing *NasyaDravya* in the nasal route, it goes to *ShringatakaMarma* as *Acharya* mentioned “*Nasa Hi ShirasoDwaram*” and acts as *VyadhiharanDhatuposhana* of the *Netra*, *Karna*, *Mukha*, *Kanth* etc.<sup>4</sup>

According to *Acharya Indu*, it is placed in *ShirasoAntarmadhyam*, which is the middle cephalic fossa. The ethmoidal and sphenoidal sinuses are both related to the middle cephalic fossa. The sphenoidal sinus is related to the nasopharynx inferiorly, and the brain stems posteriorly. In the treatment of any disease, the route of drug administration is critical. From these sources, it is possible to conclude that *Nasyakarma* is the most beneficial treatment for illnesses such as *Vishwachi* (Cervical Radiculopathy).

Previously no work has been done on *Nasyakarma* with *DashmooladiYamaka Sneha* compared to *ShuddhaBalaTailaNasyakarma* in the Management of *Vishwachi*(Cervical Radiculopathy).

Hence this study is undertaken with the Comparative Evaluation of *DashamooladiYamaka Sneha* and *ShuddhaBalaTailaNasyakarma* in the Management of *Vishwachi*.

It may correlate with Cervical Radiculopathy of its similar characteristic features. These are restricted hand movements, radiating pain from the posterior part of fingers, reduced motor neuron functions, and Degenerative changes.

## 1.1 BACKGROUND AND RATIONALE

The annual incidence rate of cervical radiculopathy is 107.3 per 100,000 for men and 63.5 per 100,000 for women.<sup>5-6</sup> According to the AHRQ's 2010 National Statistics for Cervical Radiculopathy, the most affected age group for Cervical Radiculopathy is 45 to 64 years old, with 51.03 per cent of incidents. Females are more likely than males to be afflicted, accounting for 53.69 per cent of cases. With 39.27 per cent of cases, the South is the most badly afflicted region in the United States. According to a study conducted in Minnesota, C7 Monoradiculopathy is the most prevalent symptom of this group of diseases, followed by C6.<sup>7</sup>

According to *Vagbhata Acharya Snehana, Swedana, Abhyanga, Nasya, Niruha* and *AnuvasanaBasti* are the basic line of Treatment of *Vataj Vyadhis*.<sup>8</sup> Some *Acharyas* have explained *Vishwachi* as *UrdhvajatrugataVikar*. They have mentioned that *Nasyakarma* is the best line of treatment for this condition. It is also a line of therapy treatment *Vatoupakrama*, so *Nasyakarma* should be used in this condition. *AcharyaVagbhata* has mentioned mainly three types of *Nasyakarma* are A) *Virechana*- it expelled the *Kaphaadidosha* from the *Shirapradesh*. B) *Bhrihmana/Snehana*- it nourishes the parts of *Shirabhag*. C) *Shaman*- it reduced the *Vatadidoshas*. *BhrihmanaNasya* is again divided into two types: *Marsh* and *PratimasrshaNasya*. In this condition, *Marsha Nasya* is indicated. As *AcharyaChakrapani* and *Yogratnakara* have mentioned, *DashamooladiYamakaSnehaNasya* can be used in the Management of *Vishwachi* (Cervical Radiculopathy).<sup>9</sup>

## 2. AIM AND OBJECTIVES

### 2.1 Aim-

Comparison and evaluation of the efficacy of *DashamooladiYamaka Sneha* and *ShuddhaBalaTailaNasya* in the Management of *Vishwachi*(Cervical Radiculopathy).

### 2.2 Objective-

To evaluate the effectiveness of *DashamooladiYamaka Sneha Nasya* and *ShuddhaBalaTailaNasya* in Subjective and Objective criteria in the Management of *Vishwachi*(Cervical Radiculopathy). And To compare the efficacy of *DashamooladiYamaka*

*Sneha Nasya* and *ShuddhaBalaTailaNasya* in Subjective and objective criteria in the Management of *Vishwachi* (Cervical Radiculopathy).

**2.3 Case definition:** A *Vishwachi* individual with *Bahupruthatha* symptoms (pain in the back of the upper limb) and tingling sensations to the left or right, as well as a positive Spurling's test and a cervical distraction test, as well as a range of motion.

## 2.4 RESEARCH QUESTION

Whether *DashmooladiYamaka Sneha Nasya* is more efficacious than *ShuddhaBalaTailaNasya* in the Management of *Vishwachi* (Cervical Radiculopathy)?

## 3.HYPOTHESIS

**3.1 Null Hypothesis:** *DashmooladiYamaka Sneha* is not more efficacious than *SuddhbalaTailaNasya* in the Management of *Vishwachi* (Cervical Radiculopathy).

**3.2 Alternate Hypothesis:** *DashmooladiYamaka Sneha* is more efficacious than *SuddhbalaTailaNasya* in the Management of *Vishwachi* (Cervical Radiculopathy).

## REVIEW OF LITERATURE

In Brihatrayi and Laghutrayi Samhitas Acharyas have mentioned about *Vishwachi* (Table 1)

Sr. no	Samhita	Sthana	Chap no.	Adhyay	Topic
1	<i>Sushrut</i>	<i>Nidana</i>	1	<i>VatavyadhiNidana</i>	<i>Vishwachi</i>
		<i>Chikitsa</i>	4	<i>VatavyadhiChikitsa</i>	<i>Snehikanasya</i>
		<i>Chikitsa</i>	5	<i>MahavatavyadhiChikitsa</i>	<i>Vatoupakrama</i>
2	<i>Ashtanga Hridaya</i>	<i>Sutra</i>	20	<i>NasyavidhiAdhyay</i>	<i>Bhihmananasya</i>
		<i>Nidana</i>	15	<i>VatavyadhiNidana</i>	<i>Vishwachi</i>
		<i>Chikitsa</i>	21	<i>VatavyadhiChikitsa</i>	<i>Vatoupakrama</i>
3	<i>Madhava Nidana</i>	---	22	<i>Vyadhinidana</i>	<i>Vishwachinidana</i>
4	<i>Ashtanga Sangraha</i>	<i>Nidana</i>	15	<i>VatavyadhiNidana</i>	<i>Vishwachi Nidana</i>

5	<i>Chakradatta</i>	<i>Chikitsa</i>	22	<i>VatavyadhiChikitsa</i>	<i>Vishwachichikitsa with DashmoolaBala Masha Yamaka Sneha</i>
6	<i>Bhavprakash</i>	<i>Madhyam Khanda</i>		<i>Vatavyadhikara</i>	<i>VishwachiChikitsa</i>
7	<i>Gadanigraha</i>	<i>Kayachikitsa Khanda</i>	19	<i>Vatarogadhikara</i>	<i>Vishwachi Lakshan</i>
8	<i>Yogaratnakar</i>	----	25	<i>VatavyadhiNidana</i>	<i>Vishawachi Lakshan</i>
9	<i>Vangasen</i>	-----	60	<i>Vatarogadhikara</i>	<i>Vishwachi definition, DashmoolaBala Masha Yamaka Sneha Nasya</i>
11	<i>Bhaishajya Ratnavali</i>		26	<i>VatavyadhiRogadhikara</i>	<i>DashamoolaBala Masha Yamaka Sneha Nasya in Vishwachi</i>

**Table 1-** This table shows the review of literature of Vishwachi and its classical treatment mentioned as per Ayurvedic Acharyas. In Shushrut Samhita NidanaSthan and ChikitsaSthan Acharya Sushrut has mentioned about Nidana (Causes) and Chikitsa(Treatment principles) of Vishwachi. In Ashtanga Hridaya and Ashtanga SangrahaVagbhatta Acharya also has mentioned that Vishwachi is one among the VatajaVyadhi and also given detail description of Nasyakarma in Vishwachi. Acharya Chakradatta and Yogaratnakara has given detail description about DashamooladiYamaka Sneha Nasya as treatment principle of Vishwachi. All above mentioned Acharyas has given detail Description about definition, Lakshanas, Causative factors and treatment of the Vishwachi.

## RESEARCH GAP ANALYSIS

Article	Author	Year of Publication	Research focus	Conclusion by Author	Remarks by Scholar
A Comparative study of <i>MocharasaSiddhatailandMahamasha Tail NasyainVishwachi</i>	K L Shende, Meera S Solanke, D.L.Shinde, Prasad V Kulkarni.	2015	Comparative study of <i>Nasya</i> in <i>Vishwachi</i>	<i>MocharasaSiddhatailand Mahamasha Tail Nasyais</i> Equally effective in <i>Vishvachi</i> .	<i>Snehan</i> shown results <i>Vishwa</i> therefore need to further <i>Snehan</i>

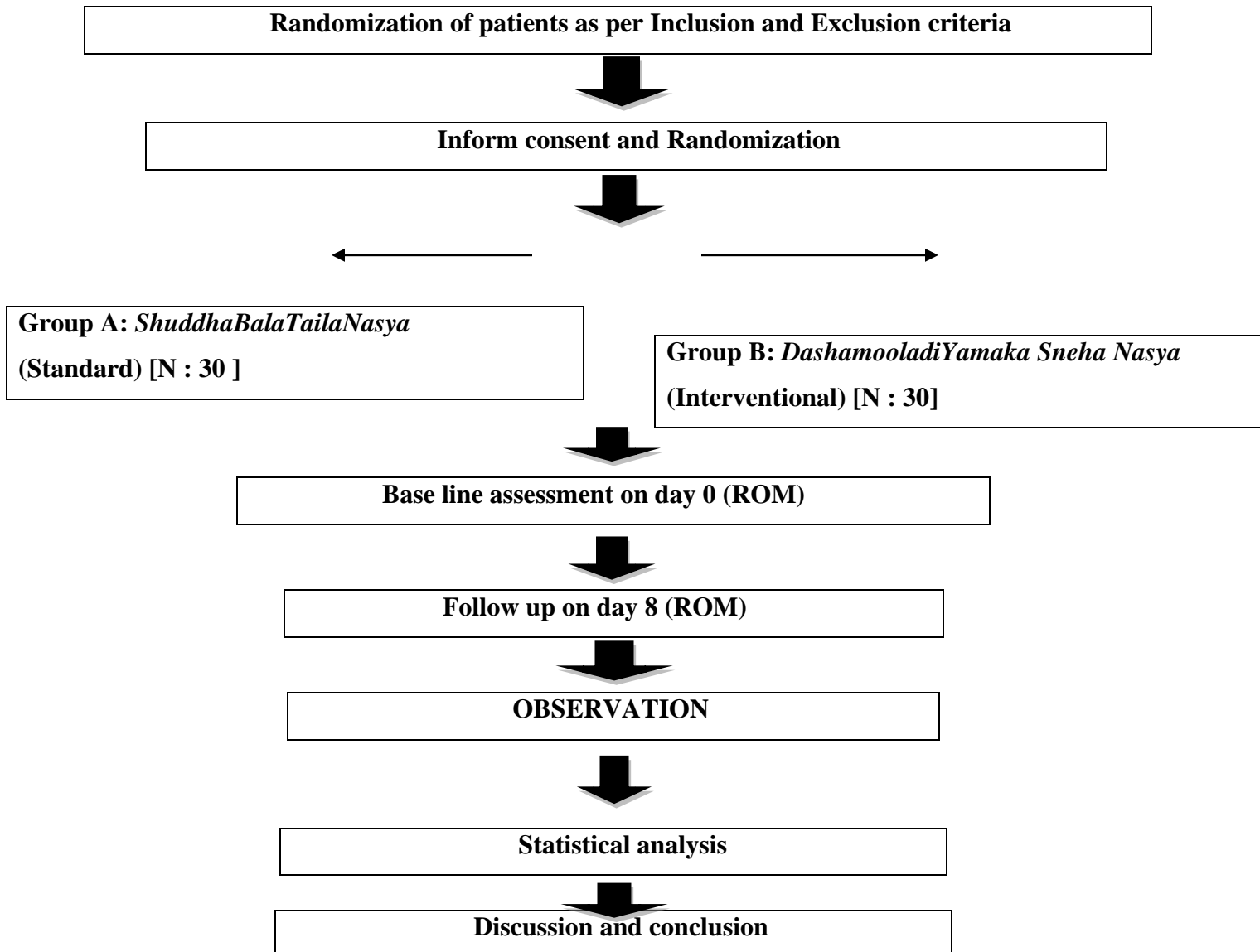
**Table 2-** This table shows An overview of the literature in *Ayurveda* regarding the Management of *Vishwachishows* that extensive work has been carried out regarding the efficacy of various treatment measures in *Ayurveda*(Table 1). Still, by reviewing the literature, No Comparative study is conducted on *DashmooladiYamakaSneha* as *Nasyakarma* in the Management of *Vishwachi*(Cervical Radiculopathy). Hence, the present study is planned to fulfill the gap of research with the help of subjective and objective criteria of *Vishwachi*(Cervical radiculopathy) and to study the effect and to compare the efficacy of *DashamooladiYamaka Sneha Nasya* and *ShuddhabalaTailaNasya* in the Management of *Vishwachi*.

#### 4. MATERIALS AND METHODS

**4.1 Source of Data-** Patients will be recruited from the OPD and IPD of Panchakarma of Mahatma Gandhi Ayurveda College, Hospital and Research Centre, Wardha, and speciality peripheral camps.

**4.2 Type of Study-** Interventional study

### 4.3 Study Design - Randomized, open clinical controlled superior trial.(Figure 1)



**Figure 1-** This figure shows the randomization process of the patient for each group. In first step the randomization will be done with the help of inclusion and exclusion criteria then further information about this study will be given to the study for their participation. After that subjects will be divided randomly in each group for further study. To group A subjects, intervention of *ShuddhabalaTailaNasya* will be given and for Group B *DashamooladiYamaka Sneha Nasya* will be advised. The baseline assessment will be done on 0<sup>th</sup> day and follow up will be on 8<sup>th</sup> day. The collected data will be observed further and statistical analysis will be performed, conclusion of the study will be drawn after observation of the collected data.



**4.4 Drug Collection/ Authentication:** The raw drugs will be procured from reliable sources and authenticated by the Department of *Dravyaguna*, Mahatma Gandhi Ayurveda College, Hospital & Research Centre, Salod (Hirapur), Wardha.

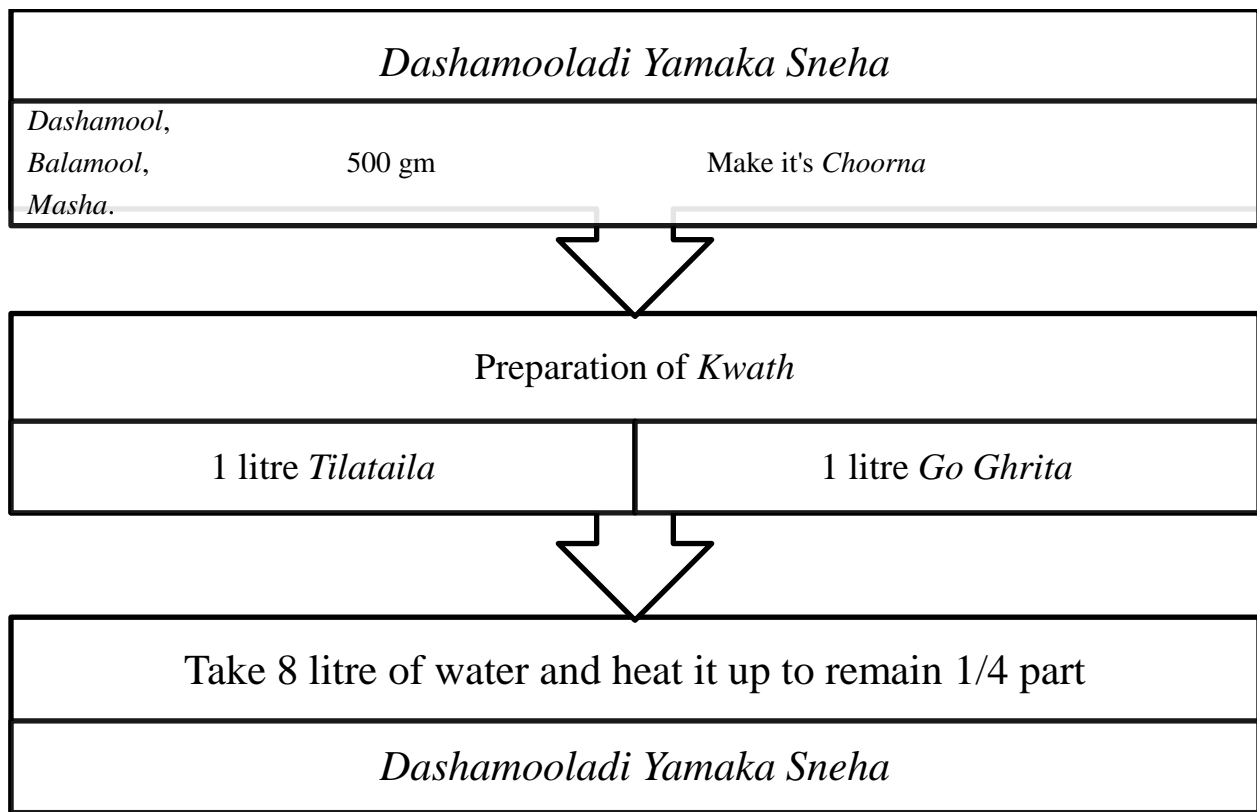
**4.5 Details of Drug Preparation:** *DashamooladiYamaka Sneha* will be prepared in the *DattatryaRasashala* of Mahatma Gandhi Ayurveda College, Hospital & Research Centre using standard operating procedures.(Figure 2)

### PROPERTIES OF DRUGS<sup>11</sup>

Sr. no	Dravya	Latin Name	Rasa	Guna	Virya	Vipaka	Doshagnata
1	<i>Bilva</i>	<i>Aegle marmelos</i>	<i>Kashaya, Tikta</i>	<i>Ruksha, Laghu</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vatakaphaghna</i>
2	<i>Agnimanth</i>	<i>Premna serratifolia</i>	<i>Tikta, Katu, Kashaya, Madhur.</i>	<i>Ruksha, Laghu</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatahara</i>
3	<i>Gambhari</i>	<i>Gmelina arborea</i>	<i>Madhur, Tikta, Kashaya.</i>	<i>Guru,</i>	<i>Ushna (But ripe fruits aresheeta)</i>	<i>Madhur</i>	<i>Tridoshahara</i>
4	<i>Shyonak</i>	<i>Oroxylum indicum</i>	<i>Tikta, Kashaya</i>	<i>Ruksha, Laghu</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Tridoshahara</i>
5	<i>Patala</i>	<i>Stereo-spermum suaveolens</i>	<i>Tikta, Kashaya.</i>	<i>Ruksha, Laghu</i>	<i>Ushna (But Flower and fruits aresheeta)</i>	<i>Katu</i>	<i>Tridoshahara</i>
6	<i>Brihati</i>	<i>Solanum Indicum</i>	<i>Katu, Tikta.</i>	<i>Ruksha, Laghu, Tikshana.</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatahara</i>
7	<i>Kantakari</i>	<i>Solanum xantho-carpum</i>	<i>Tikta, Katu.</i>	<i>Ruksha, Laghu</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavatahara</i>
8	<i>Shaliparni</i>	<i>Desmodium gengeticum</i>	<i>Madhur, Tikta</i>	<i>Guru, Snigdha.</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Tridoshahara</i>

9	<i>Gokshura</i>	<i>Tribulus terrestris</i>	<i>Madhur.</i>	<i>Guru, Snigdha.</i>	<i>Sheeta</i>	<i>Madhur</i>	<i>Tridoshahara</i>
10	<i>Prishnaparni</i>	<i>Uraria Picta</i>	<i>Madhur, Tikta.</i>	<i>Snigdha, Laghu</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Tridoshahara</i>
11	<i>Bala</i>	<i>Sida cordifolia</i>	<i>Madhur</i>	<i>Guru, Snigdha, Picchila.</i>	<i>Sheeta</i>	<i>Madhur</i>	<i>Vatapittashamak</i>
12	<i>Masha</i>	<i>Vigna mungo</i>	<i>Madhur</i>	<i>Snigdha, Guru.</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Vatashamaka</i>
13	<i>Tilataila</i>	<i>Sesamum indicum Linn</i>	<i>Madhur, Tikta</i>	<i>Guru</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Vatakaphahara</i>
14	<i>Go Ghrita</i>	-----	<i>Madhur</i>	<i>Guru, Snigdha.</i>	<i>Sheeta</i>	<i>Madhur</i>	<i>Tridoshahara</i>

### PREPARATION OF MEDICINE <sup>12</sup>



**Figure 2-** This figure shows Preparation of *DashamooladiYamaka Sneha* with Classical Ayurvedic reference which has described in detail in *BhaishajyaRatnavali*. In first step Raw part of *Dashamoola, Masha* and *Balamoola* is taken total quantity of 500gm then make it's

*Choorna*. Further Prepare *Kwath* and after Preparation of *Kwath* add *TilaTaila* and *Go-Ghrita* in Quantity of 1 liter respectively. Continue the process for while then add 8 liter of water in that and heat it continuously till it reduced up to 1/4<sup>th</sup> part. After that take it in separate vessel and keep it for while for cooling down. Then does the proper packaging and use it for further Management of *Vishwachi*.

### ***Nasyakarma Procedure***<sup>13</sup>

The *Nasyakarma* is conducted in three phases they are

1. *Poorvakarma*
2. *Pradhanakarma*
3. *Pashchatkarma*

#### ***Poorvakarma***

***SambarSangraha***: For *Nasyakarma*, choose a room with good lighting, free from air, smoke, dust etc. collect the necessary materials for *Nasya* such as table/chair, medicine, towel, cotton, *Dhumnetra*, spitting vessel, *Abhyangarthtaila* and materials for *Swedana*.

***Rogipariksha***: According to *Samanyasiddhant*, age below seven and above 80 years is not suitable for *Nasyakarma*. But *Pratimarshanasya* can give at any age. *Dhoomnasya* should not be shown below the age of 12 years.

***Aturasiddhata***: A suitable person for *Nasyakarma* should advise clearing the bowels and mouth by brushing teeth, clearing the throat, and giving *Dhoompana* before *Nasyakarma*. After that, make the patient sit on the seat or lie on the bed. The posture for *Nasya* should be such that the patient can sit comfortably with his back against the backrest, and his neck should be slightly bent back(*Pralambitashirashm*). Make the patient lie down on the *Nasya* bed with a towel under the neck so that the head is slightly tilted back; after that, do the *Mukha* and *Shirbhyanga* with *Moorchitatilataila*. After *Abhyanga*, give mild *Swedana* on the head and face. Although there is a prohibition of *Swedana* on the head, there is no harm in giving *Mriduswedana* for the solution impurities and liquefaction of *Doshas*. After *Swedana* on the head, provide a gentle massage on the neck and shoulder with soft hands.

#### ***Pradhanakarma***

***Nasyadana***: After *Poorvakarma*, makes the patient comfortable with arms and leg outstretched, head below a bit, and eyes covered with cloth. Then with *Pradeshinianguli* of the left hand,

raised the distal part of the nostril and slowly poured the eight drops of *DashamooladiYamaka Sneha* in each nostril with *Shukti* or *Pichu* through the right hand. After giving *Nasya*, give soft *Swedana* again on the patient's forehead, cheeks, hands and feet. Then give instructions repeatedly to spit the *Sneha* that came in the throat in a cold vessel. The medicine that comes in the gut should not be swallowed. Then keep the patient lying down and observe the symptoms arising in him.

### OBSERVATION

<i>Samyakyog</i>	<i>Ayog</i>	<i>Atiyog</i>
<i>Shiro Laghav</i>	<i>Vatavaigunya</i>	<i>Kaphapraseka</i>
<i>Sukhswapna</i>	<i>Rog Ashanti</i>	<i>Shiro gouravta</i>
<i>Vikaropshaman</i>	<i>Indriyarukshanam</i>	<i>Indriyavibhram</i>
<i>Indriyashuddhi</i>	<i>Kandu</i>	-----
<i>Shrotoshuddhi</i>	<i>Angagouravata</i>	-----
<i>Gatraaghav</i>	<i>Nasa Srava</i>	-----

### *NasyaVyapad* and its Management

According to *Acharya Sushruta*, two types of *Nasyavyapad* are 1) *Dosha VriddhiJanya* 2) *Dosha KshayaJanyaVyapad*. In the case of *Dosha VriddhiJanyaVyapad* condition, *Shodhana* and *Shaman Chikitsa* should be indicated, and *Dosha KshayaJanyaVyapadBrihmanaChikitsa* is shown.

### *Paschatkarma*

After spitting the medicine from the throat, give the patient warm water to clear the mouth and throat. Then wait for 5-10 minutes and advice for *Dhoompana* to clear the throat and mouth so that liquefied *Dosha* can come out. *Dhoompana* should be given with *Eladiganadravya* or *Dhoomopyogidravya*.

**Sampling Technique:** Simple Randomization by Computerized generated table.

**Sample Size:** 60 patients (30 in each Group)

**INTERVENTION**

Group	Sample size	Intervention	Dose <sup>14</sup>	Procedure Time	Duration	Follow-up
A	30	<i>ShuddhaBalaTaila</i>	8-8 drops	20-30 min.	7 days	0 <sup>th</sup> Day, (Base Line) 8 <sup>th</sup> Day
B	30	<i>Dashamooladi YamakaSneha</i>	8-8 drops	20-30 min.	7 days	0 <sup>th</sup> Day, (Base Line) 8 <sup>th</sup> Day

**Table 3-** This table lists the interventions that have been categorized into Groups A and B, respectively. The sample size is 30 for each group. Dashamooladi Yamaka Sneha is chosen for the second group intervention, and ShuddhaBalaTaila is chosen for the first group intervention. According to Ashtanga Hridaya, the dosage for interventions is 8 drops of Nasyakarma in each Group. The procedure will take 20 to 30 minutes. The duration for both groups will be seven days for each group. The follow-up for both groups will be the same, consisting of a baseline examination on day 0<sup>th</sup> and a follow-up on day 8<sup>th</sup> following treatment.

**Inclusion criteria:**

- Patients of either gender having Age group of 21 to 60 years.
- Patients with cervical radiculopathy are diagnosed based on clinical features, e.g., symptoms of Radiating pain from shoulder joint to Arm, tingling sensation, and numbness.
- Patients with decreased ROM of Neck region. (Flexion < 80<sup>0</sup>, Extension < 70<sup>0</sup>, Right Lateral < 20<sup>0</sup>, Left Lateral < 20<sup>0</sup>, Right Rotation, < 90<sup>0</sup> Left Rotation < 90<sup>0</sup>)
- Patients fit for *Nasyakarma*.<sup>15</sup>
- Patients are ready to give informed consent and abide by instructions.

**Exclusion criteria**

- Patients with Cervical Radiculopathy have diabetes mellitus.
- Post operated cases of Cervical Radiculopathy.

- Cervical radiculopathy was indicated for surgery.
- Traumatic Cervical Radiculopathy.
- Congenital spine deformity.
- Carpal tunnel syndrome.
- Patients with implanted cardiac defibrillator or pacemaker.

### Criteria for discontinuing or modifying allocated interventions:

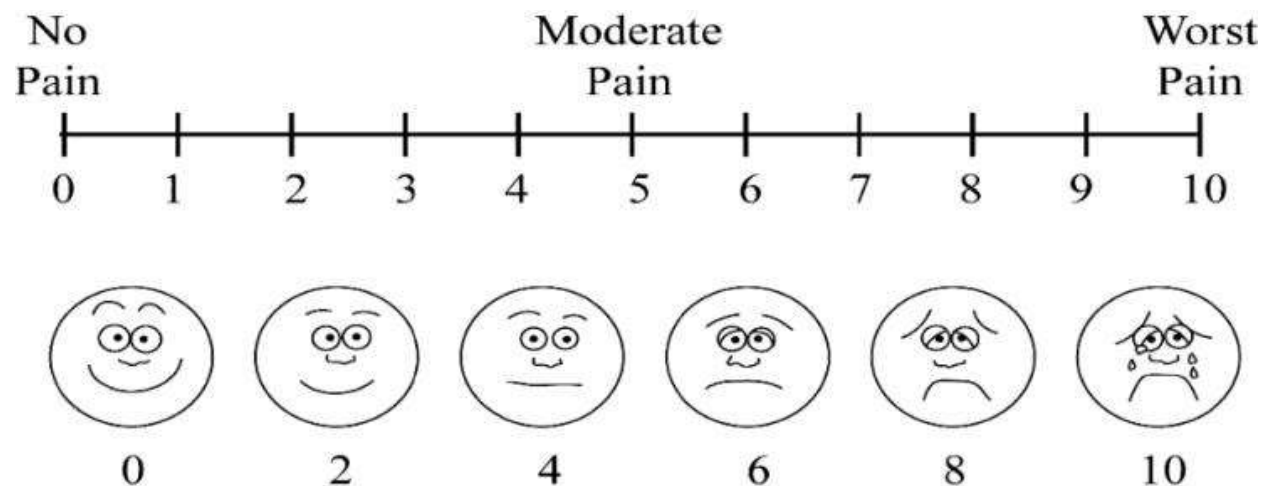
If there is any suspicious activity, the subject will be dropped from the study, highlights of medication affectivity, or another condition or situation emerges, The patients will receive no-cost medical care until the issue has been resolved.

### Assessment criteria

#### A) Subjective

(1) *Ruja* (Pain) (VISUAL ANALOG SCALE):

The patient will be asked to rate their experience of pain using numbers from 0 (being no pain) to 10 (Worst Pain). (Figure 3)



**Figure 3-** This figure describes the pain assessment using a visual analog scale. There are three subcategories for it: No pain, Moderate pain, and Worst agony. Numbers from the Scale will be

used to measure the intensity of the pain. No pain will be considered from 0 to 3, moderate pain will be considered from 4 to 7, and severe pain will be considered from 8 to 10, respectively. It will be simpler to identify *Vishwachi* (Cervical Radiculopathy) patients with the aid of this Visual Analog Scale pain Assessment, which also makes it easier to include them in this study for the Treatment.

## B) Neck disability Index<sup>16</sup>

This questionnaire was created to assist us in learning more about how your neck pain affects your ability to manage daily activities. Please check one box in each part that relates to you, even if you believe two of the assertions in one section apply to you. Please check the one that best reflects your current position.

Score: /50 Transform to percentage score  $\times 100 = \% \text{points}$

Scoring: For each section, the total possible score is 5: if the first statement is marked, the section score = 0. If the last statement is marked, it = 5. If all ten sections are completed, the score is calculated as follows: Example:16 (totally scored)

50 (total possible score)  $\times 100 = 32\%$

If one section is missed or not applicable the score is calculated: 16 (total scored)

45 (total possible score)  $\times 100 = 35.5\%$

Minimum Detectable Change (90% confidence): 5 points or 10 %points

## (2) Objective parameters

### (1) Range of Motion of Neck

The goniometer is used to measure the neck's range of motion before and after treatment.

Flexion, extension, right lateral and left lateral rotation, and right and left rotation are possible neck movements.

### Normal Range of Motion of Cervical Spine<sup>17</sup>

MOVEMENT	NORMAL READING
Flexion	80 <sup>0</sup> -90 <sup>0</sup>

<b>Extension</b>	<b>70<sup>0</sup></b>
<b>Right Lateral</b>	<b>20<sup>0</sup>-45<sup>0</sup></b>
<b>Left Lateral</b>	<b>20<sup>0</sup>-45<sup>0</sup></b>
<b>Right Rotation</b>	<b>90<sup>0</sup></b>
<b>Left Rotation</b>	<b>90<sup>0</sup></b>

## (2) Nerve conduction Test

In Random 6 patients (3 in each Group)

### 5. ANALYSIS PLAN:

#### Statistical analysis:

To get at the final results and conclusions, statistical analysis will be applied to the generated and collected study data.

Tables and graphs will display the demographic information. Tests of significance will be run on the data from the investigations. Results will be presented as median and range, as well as the mean value and standard deviation (SD) (minimum-maximum).

GraphPad InStat software ([www.graphpad.com](http://www.graphpad.com)) will be utilised for statistical data analysis.

- Considering Subjective Parameters:

Wilcoxon Matched Pairs Signed-Ranks Test is used for comparisons between groups (intragroup comparison); Mann-Whitney test is used for comparisons between groups (intergroup comparison).

P value 0.05 or lower will be regarded as significant.

- The Kolmogrov-Smirnov test will be used to determine whether the data are normal for the objective parameters.

For a comparison within the group (intra-group comparison):

When the data pass the test for normality, the Student's Paired t-test will be used.

In the event that the data fail the normality test, the Wilcoxon Matched-Pairs Signed-Ranks Test will be applied.



**6. Observation and Results:** This will be drawn after analysis.

**7. Discussion and Conclusion:**

*Vishwachi* is the pain-inducing condition,<sup>18</sup> and it is due to *VataDosha*; hence *Vatashamaka* herbs are indicated in different forms, i.e. *Abhayanga*, *Nasya*, *Snehapana*. All herbs are *Vatashamak*,<sup>19</sup> *Tridosahara* and *Vatakaphashamaka*; due to its *Ushna*, *Guru*, *Snigdha*, *PicchilaGunas*, *Madhura* and *KatuRasa*, it will work on *Vishwachias* it is *VatananatmajaVyadhi*.<sup>20</sup> *Yamaka Sneha* combines two *Snehas*,<sup>21</sup> i.e. *Taila* and *Ghrita*; it acts as *Vatashaman*, *Brumhana* and *Nerve stimulation*. According to *BrihatrayiAcharya* of *Ayurveda*, *Nasyais* indicated for *Vatavyadhi* and *Urdhvagata Roga*.<sup>22</sup> *Vishwachicomes* under *UrdhvagataRoga* because its *Samprati* is developed in the neck region, i.e. in the cervical spine vertebra. Many studies are correlated with *Cervical spondylosis*.<sup>23-24</sup> Due to its *Dhatuposhaka* property, *SnehanaNasya* brings about the *Snehana* effect and gives all *Dhatu* power. It strengthens the neck, shoulder, and chest while improving vision. *Vishwachi* is a *Vatavikara* that develops when the *Greevakasherukasandhi* (cervical vertebrae & intervertebral discs) experiences *Dhatukshaya* (degeneration). *Vatashamakaoushadha* instillation through the nostril is the most effective way to bring about *Dhatuposhana* in this circumstance.<sup>25</sup>

**8. Ethical Consideration:** Study will be started after the ethical clearance from IEC

**9. Gantt chart (Quarterly based, only for long term project, P.G. and PhD synopsis)**

Scholar/Investigator	DR.MAHESH DODIYA							
Title	Comparative Evaluation of <i>DashamooladiYamakaSneha</i> and <i>ShuddhaBalaTailaNasya</i> in the Management of <i>Vishwachi</i> (Cervical Radiculopathy)							
Steps	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
<i>Approval from IEC</i>								
<i>Review of the literature</i>								
<i>Drug Preparation</i>								

<i>Enrollment of Patient</i>								
<i>Data Collection</i>								
<i>Statistical analysis</i>								
<i>Thesis writing</i>								
<i>Submission</i>								

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