



Research Article

RANDOMIZED CONTROL TRIAL ON ERANDAMULA GHANAVATI WITH NASYA IN MANYAGRAHA WITH SPECIAL REFERENCE TO CERVICAL SPONDYLOSIS

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ABSTRACT

Background: Cervical spondylosis is defined as degenerative changes occurring in the discs and cervical spine. Stating these changes is to be almost universal in the elderly. Cervical Spondylosis correlated with Manyagraha in Ayurvedic perspective. **Aim:** Aim of the study was to evaluate the effect of Erandamula Ghanavati and Anu Taila Nasya in Manyagraha. **Methods:** The Group in which Erandamula Ghanavati and Anutaila Nasya were given to patients was termed as Trial Group. The Group in which Panchatikta Ghrita Guggulu and Anutaila Nasya were given to patients was termed as Control Group. During this study 104 patients out of 150 were equally divided into Trial and Control Group by lottery method and comparative study was done. Statistical analysis was done using appropriate tests. **Results:** Erandamula Ghanavati along with Anu Taila Nasya has reduces symptoms of Manyagraha. Total effect of therapy is more in Trial group as compared to the Control Group. **Discussion:** As stated by Charak Erandamula is best Vatahara drug. Its Rasa, Virya and Vipak are helpful to alleviate Vata. Erandamula having Snigdha, Madhuraproperties is going to be beneficial in Dhatukshayajanya Vatavyadhi. **Conclusion:** Erandamula Ghanavati along with Anu Taila Nasya has beneficial for patients of Manyagraha.

KEYWORDS: Manyagraha, Erandamula Ghanavati, Nasya, Cervical Spondylosis.

INTRODUCTION

Cervical Spondylosis is the term commonly refers to degenerative disorder of cervical spine. Intermittent neck and shoulder pain is the most common syndrome seen in clinical practice. People working for long time on computers, long time driving, tailoring, housewives who works at home in bending position for prolonged period and any such activities, which continuously gives strain to the neck are responsible for cervical spondylosis. Incidence of recurrence is much higher with lots of side effects of oral medication like non steroidal anti inflammatory drug and steroid.

Bhalchim Y. has done work on Manyagraha entitled as “A Clinical Study on the Management of Manyagraha with reference to Cervical Spondylosis by Nasya with Herbo-Mineral Drug”.¹ Panchatikta Ghrita Guggulu contains various drugs and Shudhha Guggulu is not cost effective. So, it will not be able to possible for every patient to afford it.

Charak has described that Erandamula is Vrishya and best to alleviate Vayu.² Erandamula has Madhur Rasa, Ushna Virya, Snigdha, Tikshna and Sukshma Guna.³ All these properties of Erandamula are responsible to alleviate Vata. Considering foresaid facts Erandamula Ghanavati with Anu Taila Nasya was used in Manyagraha. Therefore, study entitled “Randomized Control Trial on Erandamula Ghanavati with Nasya in Manyagraha with Special Reference to Cervical Spondylosis” was planed.

In Trial Group, Erandamula Ghanavati with Anu Taila Nasya was given to the patients. In Control group Panchatikta Ghrita Guggulu along with Anu Taila Nasya was given to the patients.

Patients of both groups were advised to take medicine for 21 days duration, regularly. Final assessments were taken on 29th day.

AIM AND OBJECTIVES

To evaluate the effect of oral administration of Erandamula Ghanavati with Anu Taila Nasya and to compare its effect with the effect of oral administration of Panchatikta Ghrita Guggulu with Anu Taila Nasya in Manyagraha with reference to cervical spondylosis.

MATERIALS AND METHODS

The patients suffering from Manyagraha and attending the O.P.D. and I.P.D. at Govt. Ayurved Hospital, Nagpur, India were selected. To select the size of sample for this study the standard criteria for sample selection was used. To calculate sample size, the work done by Bhalchim Y. (2016) entitled “A Clinical Study on the Management of Manyagraha with specific reference to Cervical Spondylosis by Herbo-mineral Drug” was taken into consideration. 104 patients from 150 patients of Manyagraha were selected randomly. These patients were divided into two groups randomly. The group called as Trial Group comprised 52 patients in which Erandamula Ghanavati with Nasya was given for 21 days. While in another group called as Control Group comprised 52 patients in which Panchatikta Ghrita Guggulu with Nasya was given for 21 days. Nasya was given to patients as per procedure mentioned in Classical text.

Criteria of Diagnosis

The patients were diagnosed on the basis clinical features of Manyagraha and Radiological criteria.

Inclusion Criteria

1. Patients having sign and symptoms of Manyagraha according to classics.
2. Radiological changes, degenerative changes in cervical spine.
3. Patients willing and able to participate in the study were taken.
4. Neck pain more than three months.
5. Patients who were fit for Nasya.

4. Patients currently on prolonged (≥ 6 weeks) any one medication with corticosteroids, nonsteroidal anti-inflammatory drug, antidepressants, anticholinergic etc. or any drugs that may influence on the outcome of the study.
5. Patients who had a past history of any other systemic disorders were excluded.
6. Pregnant / lactating women.

Exclusion Criteria

1. History of any fracture of vertebral joint/ surgical/ diagnostic intervention with reference to affected joints was excluded.
2. The patient who had fixed joint or having developed contracture were not included in study.
3. Patient with uncontrolled hypertension ($\geq 160/100$ mm of Hg) and uncontrolled diabetes (Blood sugar level fasting >150 mg/dl and post prandial >250 mg/dl) were ruled out.

Information Sheet and Consent

Detail information about the study was given to all the patients and a written consent of all patients included in study was taken before including them into the study. This study is carried out as per Declaration of Helsinki Guidelines. The registration no. of CTRI was REF/2018/12/022750.

Table 1: Groups of Management

| Groups of Management | Treatment given | Duration | Dose | Anupana | Bheshaja Sevankala |
|----------------------|-------------------------------|----------|--------------------------|----------|--------------------|
| Trial Group | 1. Erandamula Ghanavati | 21 days | 500mg | Ushnodak | After meal |
| | 2. Anu Tail Nasya | 21 days | 8 drops in each nostrils | | 2 times in day |
| Control Group | 1. Panchatikta Ghrita Guggulu | 21 days | 500mg | Ushnodak | After meal |
| | 2. Anu Tail Nasya | 21 days | 8 drops in each nostrils | | 2 times in day |

Criteria of Assessment

The signs and symptoms were assessed by adopting suitable method. For those symptoms mentioned in texts was considered as Clinical Assessment.

Oswestry Neck Disability Index: 10 sections each section has 0-5 score according to questionnaire

Clinical Assessment:

Table 2: Signs and Symptoms of Manyagraha

| Pramukha Vedana | Gradation | Marks |
|--|--|-------|
| 1. Manyashula (Cervical pain) | No pain | 0 |
| | Mild pain | 1 |
| | Moderate pain but no difficulty in neck movement | 2 |
| | Slight difficulty in neck movement due to pain | 3 |
| | Much difficulty in neck movement | 4 |
| | Much pain which prevents neck movement | 5 |
| 2. Akunchan Prasaranyoh Shula (Pain on extension and flexion) | No pain | 0 |
| | Pain without wincing of face | 1 |
| | Pain with wincing of face | 2 |
| | Shouts or prevents complete flexion/ extension | 3 |
| | Does not allow passive movements | 4 |
| 3. Graha (Stiffness) | No stiffness | 0 |
| | Mild stiffness | 1 |
| | Moderate stiffness | 2 |
| | Much difficulty due to stiffness | 3 |
| | Severe stiffness (more than 10 min) | 4 |
| 4. Pidanasahtva (Tenderness) | No tenderness | 0 |
| | Patient says tenderness | 1 |
| | Wincing of face | 2 |
| | Wincing of face withdrawal, the hand | 3 |
| | Not allowing to touch joints | 4 |
| 5. Shulasya Kala (Duration of pain) | No pain | 0 |
| | Only in morning (4-10am) / Evening (5-11pm) | 1 |
| | Pain in morning and evening (4-10am and 5-11pm) | 2 |
| | Pain present whole day | 3 |
| 6. Anidra | Samyaka Nidra | 0 |
| | Mild Anidra | 1 |
| | Moderate Anidra | 2 |
| | Severe Anidra | 3 |

3) Range of movement of cervical spine

Table 3: Range of movement of cervical spine

| Cervical Movements | Observed range of movement | |
|--------------------|----------------------------|-----------------|
| | Before Treatment | After Treatment |
| Flexion | | |
| Extension | | |
| Right rotation | | |
| Left rotation | | |
| Right lateral | | |
| Left lateral | | |

Overall Assessment Criteria

Total effect of therapy was evaluated in terms of complete relief, Markedly Improvement, Moderately Improvement and Mild Improvement.

Table 4: Overall assessment categories

| Total Effect of Therapy | Criteria |
|-----------------------------|---|
| Complete relief: | 100% relief in all signs and symptoms of the patient |
| Marked Improvement: | More than 75% relief in signs and symptoms |
| Moderate Improvement | Relief between 50% to 75% all the signs and symptoms of the patient were be considered as moderately improved. |
| Mild Improvement: | 25% to 50% of relief in the signs and symptoms will be categorised as mild improved. |
| Unchanged: | Less than 25% of relief in signs and symptoms will be considered as unchanged. |
| LAMA: | Patients discontinuing treatment due to any circumstances will be included in LAMA group (Left against Medical Advice). |

Statistical Analysis

Wilcoxon Ranked sign test was used for Symptom score and Oswestry Neck disability Index Score to evaluate effect of drugs. This test also used observed effect on Range of Movement of

Neck by drug of both Groups. Mann-Whitney Test was used for Comparison of both group effect with respect to Symptom score and Oswestry Neck disability Index Score. The Chi Square Statistics was used to evaluate Total effect of therapy of both groups.

OBSERVATIONS AND RESULTS

Table 5: Effect on Symptom Score of 104 Patients of Manyagraha

| Symptoms | Trial Group (Average Score) | | | | Control Group (Average Score) | | | |
|-------------------------|-----------------------------|------|-------|-------------|-------------------------------|------|------|-------------|
| | BT | AT | Diff | % of Relief | BT | AT | Diff | % of Relief |
| Manyashula | 02.70 | 0.88 | 01.85 | 68.40 | 02.90 | 0.94 | 1.96 | 68.10 |
| AkunchanPrasaryohShulam | 01.92 | 0.53 | 01.38 | 73.08 | 02.02 | 0.67 | 1.34 | 66.67 |
| Graha | 02.00 | 0.54 | 1.50 | 72.80 | 01.98 | 0.62 | 1.37 | 69.90 |
| Pidasasahatva | 01.60 | 0.40 | 1.17 | 72.10 | 01.80 | 0.48 | 1.31 | 71.20 |
| Shulasya Kala | 01.98 | 0.56 | 1.42 | 72.80 | 02.15 | 0.83 | 1.33 | 63.10 |
| Anidra | 01.50 | 0.50 | 1.10 | 65.70 | 01.80 | 0.60 | 1.20 | 68.90 |
| Average | | | | 70.81 | | | | 67.98 |

Table 6: Effect of Therapy On Oswestry Neck Disability Score of 104 Patients of Manyagraha

| Symptoms | Group | Average Symptoms Score | | | % of Relief (Diff/BT) |
|----------------|---------------|------------------------|------|-------|-----------------------|
| | | BT | AT | Diff | |
| Pain Intensity | Trial Group | 2.36 | 0.75 | 1.61 | 68.58 |
| | Control Group | 2.46 | 0.90 | 1.55 | 63.46 |
| Personal Care | Trial Group | 1.98 | 0.50 | 1.48 | 76.28 |
| | Control Group | 2.07 | 0.63 | 1.44 | 71.47 |
| Lifting | Trial Group | 2.05 | 0.78 | 1.26 | 60.90 |
| | Control Group | 2.00 | 0.73 | 1.26 | 63.14 |
| Reading | Trial Group | 2.38 | 0.80 | 1.57 | 64.74 |
| | Control Group | 2.26 | 0.84 | 1.42 | 61.85 |
| Headaches | Trial Group | 1.94 | 0.65 | 1.28 | 65.70 |
| | Control Group | 2.00 | 0.57 | 1.42 | 68.59 |
| Concentration | Trial Group | 1.86 | 0.63 | 1.23 | 64.42 |
| | Control Group | 1.98 | 0.63 | 1.34 | 68.26 |
| Work | Trial Group | 2.13 | 0.71 | 1.42 | 65.00 |
| | Control Group | 2.34 | 0.84 | 1.50 | 64.10 |
| Driving | Trial Group | 1.76 | 0.61 | 1.15 | 63.46 |
| | Control Group | 1.73 | 0.67 | 1.05 | 58.65 |
| Sleeping | Trial Group | 1.96 | 0.55 | 1.40 | 38.62 |
| | Control Group | 2.38 | 0.80 | 1.57 | 68.26 |
| Recreation | Trial Group | 1.82 | 0.57 | 1.25 | 68.58 |
| | Control Group | 2.00 | 0.78 | 1.21 | 61.21 |
| Total score | Trial Group | 20.30 | 6.61 | 13.69 | 67.31 |
| | Control Group | 21.15 | 7.48 | 13.67 | 64.86 |

Table 7: Wilcoxon Signed Rank Test on Symptom Score of 104 Patients of Manyagraha

| Symptoms | Groups | W | T+ | T ₋ | Median | | Mean ± SD | | | % of Relief | Z | P |
|-----------------------------|--------|------|------|----------------|--------|----|-----------|-----------|-----------|-------------|------|---------|
| | | | | | BT | AT | BT | AT | Diff ± SD | | | |
| ManyaShula | TG | 1378 | 1378 | 0 | 3 | 1 | 2.73±0.56 | 0.88±0.43 | 1.84±0.50 | 68.4 | 6.27 | <0.0001 |
| | CG | 1326 | 1326 | 0 | 3 | 1 | 2.90±0.50 | 0.94±0.50 | 1.96±0.52 | 68.9 | 5.80 | <0.0001 |
| Akunchan Prasaranyoh Shulam | TG | 1326 | 1326 | 0 | 2 | 1 | 1.92±0.48 | 0.54±0.50 | 1.39±0.57 | 73.08 | 5.80 | <0.0001 |
| | CG | 1081 | 1081 | 0 | 2 | 1 | 2.02±0.64 | 0.67±0.68 | 1.35±0.74 | 66.67 | 3.57 | <0.0001 |
| Graha | TG | 1136 | 1156 | -20 | 2 | 0 | 2.00±0.79 | 0.54±0.70 | 1.46±0.87 | 72.8 | 4.07 | <0.0001 |
| | CG | 1225 | 1225 | 0 | 2 | 1 | 1.98±0.67 | 0.63±0.63 | 1.37±0.60 | 69.9 | 4.88 | <0.0001 |
| Pidasasahatva | TG | 1081 | 1081 | 0 | 2 | 0 | 1.58±0.67 | 0.40±0.53 | 1.17±0.62 | 72.1 | 3.57 | <0.0001 |
| | CG | 1035 | 1035 | 0 | 2 | 0 | 1.79±0.78 | 0.48±0.58 | 1.31±0.73 | 71.2 | 3.15 | <0.0001 |
| Shulasya Kala | TG | 1225 | 1225 | 0 | 2 | 1 | 1.98±0.64 | 0.56±0.54 | 1.42±0.67 | 72.8 | 4.88 | <0.0001 |
| | CG | 1275 | 1275 | 0 | 2 | 1 | 2.15±0.60 | 0.83±0.55 | 1.33±0.55 | 63.1 | 5.34 | <0.0001 |
| Anidra | TG | 1035 | 1035 | 0 | 2 | 0 | 1.54±0.70 | 0.46±0.50 | 1.08±0.59 | 65.7 | 3.15 | <0.0001 |
| | CG | 1225 | 1225 | 0 | 2 | 1 | 1.77±0.51 | 0.56±0.50 | 1.21±0.53 | 68.9 | 4.88 | <0.0001 |

Table 8: Wilcoxon Signed Rank Test on Oswestry Neck Disability Score of 104 Patients of Manyagraha

| Symptoms | Groups | W | T+ | T ₋ | Median | | Mean ± SD | | | % of Relief | Z | P |
|--------------------------------|--------|------|------|----------------|--------|-----|------------|-----------|------------|-------------|------|---------|
| | | | | | BT | AT | BT | AT | Diff ± SD | | | |
| Pain Intensity | TG | 1378 | 1378 | 0 | 2 | 1 | 2.36±0.49 | 0.75±0.44 | 1.61±0.49 | 68.59 | 6.27 | <0.0001 |
| | CG | 1326 | 1326 | 0 | 2 | 1 | 2.46±0.61 | 0.90±0.50 | 1.56±0.54 | 63.46 | 5.80 | <0.0001 |
| Personal Care | TG | 1326 | 1326 | 0 | 2 | 0 | 1.98±0.37 | 0.50±0.58 | 1.48±0.54 | 76.28 | 5.80 | <0.0001 |
| | CG | 1378 | 1378 | 0 | 2 | 1 | 2.07±0.51 | 0.63±0.59 | 1.44±0.53 | 71.47 | 6.27 | <0.0001 |
| Lifting | TG | 1225 | 1225 | 0 | 2 | 1 | 2.06±0.50 | 0.79±0.50 | 1.27±0.56 | 60.90 | 4.88 | <0.0001 |
| | CG | 1194 | 1209 | -15 | 2 | 1 | 2.00±0.56 | 0.73±0.56 | 1.26±0.66 | 63.14 | 4.73 | <0.0001 |
| Reading | TG | 1275 | 1275 | 0 | 2 | 1 | 2.39±0.63 | 0.81±0.49 | 1.58±0.64 | 64.74 | 5.33 | <0.0001 |
| | CG | 1225 | 1225 | 0 | 2 | 1 | 2.26±0.66 | 0.85±0.55 | 1.42±0.63 | 61.85 | 4.88 | <0.0001 |
| Headache | TG | 1225 | 1225 | 0 | 2 | 1 | 1.94±0.50 | 0.65±0.52 | 1.29±0.57 | 65.71 | 4.88 | <0.0001 |
| | CG | 1128 | 1128 | 0 | 2 | 1 | 2.00±0.65 | 0.57±0.53 | 1.42±0.69 | 68.59 | 3.99 | <0.0001 |
| Concentration | TG | 1145 | 1160 | -15.5 | 2 | 1 | 1.87±0.44 | 0.63±0.60 | 1.23±0.67 | 64.42 | 4.28 | <0.0001 |
| | CG | 1225 | 1225 | 0 | 2 | 1 | 1.98±0.46 | 0.63±0.56 | 1.34±0.59 | 68.27 | 4.88 | <0.0001 |
| Working | TG | 1176 | 1176 | 0 | 2 | 1 | 2.14±0.53 | 0.71±0.54 | 1.42±0.64 | 65.38 | 4.43 | <0.0001 |
| | CG | 1225 | 1225 | 0 | 2 | 1 | 2.34±0.76 | 0.84±0.46 | 1.50±0.64 | 64.10 | 4.88 | <0.0001 |
| Driving | TG | 1035 | 1035 | 0 | 2 | 1 | 1.77±0.76 | 0.62±0.53 | 1.15±0.64 | 63.46 | 3.15 | <0.0001 |
| | CG | 1001 | 1018 | -17 | 2 | 1 | 1.73±0.71 | 0.67±0.55 | 1.06±0.67 | 58.65 | 2.99 | <0.0001 |
| Sleeping | TG | 1081 | 1081 | 0 | 2 | 1 | 1.96±0.91 | 0.56±0.50 | 1.40±0.77 | 38.62 | 3.57 | <0.0001 |
| | CG | 1378 | 1378 | 0 | 2 | 1 | 2.38±0.69 | 0.80±0.63 | 1.57±0.57 | 68.27 | 6.27 | <0.0001 |
| Recreation | TG | 1225 | 1225 | 0 | 2 | 1 | 1.83±0.43 | 0.58±0.50 | 1.25±0.56 | 68.59 | 4.88 | <0.0001 |
| | CG | 1225 | 1225 | 0 | 2 | 1 | 2.00±0.52 | 0.79±0.50 | 1.21±0.53 | 61.21 | 4.88 | <0.0001 |
| Oswestry Neck Disability Score | TG | 1378 | 1378 | 0 | 20 | 7 | 20.30±2.70 | 6.62±2.05 | 13.70±2.74 | 67.32 | 6.27 | <0.0001 |
| | CG | 1378 | 1378 | 0 | 22 | 7.5 | 21.15±3.43 | 7.48±2.88 | 13.67±3.01 | 64.86 | 6.27 | <0.0001 |

Table 9: Effect of Therapy On Range of Movement of Cervical Spine of 104 Patients of Manyagraha By Wilcoxon Sign Ranked Test

| Symptoms | Groups | W | T+ | T ₋ | Median | | Mean ± SD | | | % of Relief | Z | P |
|----------------|--------|-------|-------|----------------|--------|------|-------------|-------------|---------------|-------------|------|---------|
| | | | | | BT | AT | BT | AT | Diff ± SD | | | |
| Neck flexion | TG | -1326 | 0 | -1326 | 50 | 60 | 47.60±8.99 | 61.73±7.66 | -14.13± 5.12 | 32.13 | 6.27 | <0.0001 |
| | CG | -1326 | 0 | -1326 | 40 | 55 | 44.23±9.04 | 56.92±7.74 | -12.69± 6.45 | 31.67 | 6.27 | <0.0001 |
| Neck extension | TG | -1326 | 0 | -1326 | 50 | 60 | 49.14±9.79 | 61.35±7.48 | -12.21± 7.24 | 27.96 | 6.27 | <0.0001 |
| | CG | -1262 | 6.50 | -1268.5 | 50 | 60 | 50.48±9.09 | 61.44±8.30 | -10.96± 6.57 | 24.14 | 6.21 | <0.0001 |
| Right Rotation | TG | -1119 | 4.50 | -1123.5 | 60 | 70 | 58.85±10.18 | 69.14±7.65 | -10.29± 6.14 | 19.25 | 6.23 | <0.0001 |
| | CG | -1326 | 00.00 | -1326 | 60 | 70 | 57.69±12.70 | 68.08±11.21 | -10.39± 5.85 | 20.10 | 6.27 | <0.0001 |
| Left Rotation | TG | -977 | 6.50 | -983.50 | 60 | 70 | 61.92±8.53 | 71.35±6.58 | -9.42± 6.84 | 16.58 | 6.21 | <0.0001 |
| | CG | -1128 | 0.00 | -1128 | 60 | 70 | 59.14±11.62 | 69.62±8.96 | -10.48± 6.36 | 20.08 | 6.27 | <0.0001 |
| Right Lateral | TG | -1225 | 00.00 | -1225 | 25 | 35 | 25.77±6.29 | 34.23±5.18 | -8.46± 3.78 | 37.80 | 6.27 | <0.0001 |
| | CG | -1176 | 00.00 | -1176 | 25 | 32.5 | 25.00±06.18 | 33.08±05.25 | -08.08± 04.66 | 39.40 | 6.27 | <0.0001 |
| Left Lateral | TG | -1176 | 00.00 | -1176 | 25 | 35 | 25.96±7.48 | 34.33±8.17 | -8.37± 4.28 | 35.04 | 6.27 | <0.0001 |
| | CG | -840 | 10.50 | -850.50 | 30 | 35 | 27.50±06.68 | 34.14±06.32 | -06.64± 05.49 | 30.53 | 6.17 | <0.0001 |

Table 10: Comparison between Two Groups of Manyagraha with respect to Symptoms Score by Mann-Whitney Test

| Symptoms | U'(U1) | U stat(U2) | T1(sum of Rank TG) | T2(Sum Of Rank CG) | Median | | Mean ± SD of TG | Mean ± SD of CG | Z | P |
|----------------------------|--------|------------|--------------------|--------------------|--------|----|-----------------|-----------------|------|------|
| | | | | | TG | CG | | | | |
| ManyaShula | 1510 | 1194 | 2572 | 2888 | 2 | 2 | 1.85±0.50 | 1.96±0.52 | 1.03 | 0.29 |
| Akunchan PrasaranyohShulam | 1372 | 1332 | 2750 | 2710 | 1 | 1 | 1.39±5.57 | 1.35±0.74 | 0.12 | 0.89 |
| Graha | 1525 | 1179 | 2903 | 2557 | 2 | 1 | 1.50±0.80 | 1.36±0.59 | 1.12 | 0.25 |
| Pidana-Asahatva | 1502 | 1202 | 2580 | 2880 | 1 | 1 | 1.17±0.61 | 1.30±0.72 | 0.97 | 0.32 |
| Shulyasya Kala | 1454.5 | 1249.5 | 2832.5 | 2627.5 | 1 | 1 | 1.42±0.67 | 1.33±0.55 | 0.66 | 0.50 |
| Anidra | 1501.5 | 1202.5 | 2580.5 | 2879.5 | 1 | 1 | 1.07±0.59 | 1.21±0.54 | 0.96 | 0.32 |

Table 11: Comparison between Two Groups of Manyagraha with respect to Oswestry Neck Disability Index by Mann-Whitney Test

| Sections | U'(U1) | U stat(U2) | T1(sum of Rank TG) | T2(Sum Of Rank CG) | Median | | Mean ± SD of TG | Mean ± SD of CG | Z | P |
|----------------|--------|------------|--------------------|--------------------|--------|------|-----------------|-----------------|------|------|
| | | | | | TG | CG | | | | |
| Pain Intensity | 1414 | 1290 | 2792 | 2668 | 2 | 2 | 1.61±0.49 | 1.55±0.54 | 0.39 | 0.68 |
| Personal Care | 1428 | 1276 | 2806 | 2654 | 1.5 | 1 | 1.48±0.54 | 1.44±0.54 | 0.49 | 0.61 |
| Lifting | 1382 | 1322 | 2700 | 2760 | 1 | 1 | 1.26±0.56 | 1.26±0.66 | 0.19 | 0.84 |
| Reading | 1522 | 1182 | 2900 | 2560 | 2 | 1 | 1.57±0.64 | 1.42±0.64 | 1.10 | 0.26 |
| Headache | 1523 | 1181 | 2559 | 2901 | 1 | 1.5 | 1.29±0.57 | 1.42±0.69 | 1.10 | 0.26 |
| Concentration | 1458 | 1240 | 2624 | 2836 | 1 | 1 | 1.23±0.67 | 1.34±0.59 | 0.68 | 0.48 |
| Working | 1426 | 1278 | 2656 | 2804 | 1.5 | 2 | 1.42±0.63 | 1.5±0.64 | 0.47 | 0.62 |
| Driving | 1441.5 | 1262.5 | 2819.5 | 2640.5 | 1 | 1 | 1.15±0.64 | 1.06±0.67 | 0.57 | 0.55 |
| Sleeping | 1510 | 1194 | 2572 | 2888 | 1 | 2 | 1.40±0.77 | 1.58±0.57 | 1.02 | 0.29 |
| Recreation | 1401 | 1303 | 2779 | 2681 | 1 | 1 | 1.25±0.55 | 1.21±0.53 | 0.31 | 0.74 |
| Total | 1382.5 | 1321.5 | 2699.5 | 2760.5 | 14 | 14.5 | 13.69±2.74 | 13.67±3.00 | 0.19 | 0.84 |

Table 12: Comparison between Two Groups with respect Range of movements of Neck by Mann-Whitney Test

| Symptom | U'(U1) | U stat(U2) | T1(sum of Rank TG) | T2(Sum Of Rank CG) | Median | | Mean ± SD of TG | Mean ± SD of CG | Z | P |
|----------------|--------|------------|--------------------|--------------------|--------|----|-----------------|-----------------|------|------|
| | | | | | TG | CG | | | | |
| Neck Flexion | 1599.5 | 1104.5 | 2977.5 | 2482.5 | 15 | 10 | 14.13±5.11 | 12.69±6.45 | 1.60 | 0.10 |
| Neck Extension | 1454.5 | 1249.5 | 2832.5 | 2627.5 | 10 | 10 | 12.21±7.23 | 10.96±6.57 | 0.66 | 0.50 |
| Right Rotation | 1417 | 1287 | 2795 | 2665 | 10 | 10 | 10.28±6.13 | 10.38±5.84 | 0.41 | 0.67 |
| Left Rotation | 1463.5 | 1240.5 | 2618.5 | 2841.5 | 10 | 10 | 9.42±6.83 | 10.48±6.38 | 0.72 | 0.46 |
| Right Lateral | 1481.5 | 1222.5 | 2859.5 | 2600.5 | 10 | 10 | 8.46±3.77 | 8.07± 4.66 | 0.83 | 0.39 |
| Left Lateral | 1639.5 | 1064.5 | 3017.5 | 2442.5 | 10 | 5 | 8.36±4.28 | 6.63± 5.49 | 1.86 | 0.06 |

Table 13: Total Effect of Therapy on Total 104 Patients of Manyagraha

| Overall Assessment | Trial Group | | Control Group | | Total No. of Patients | Percentage |
|---------------------|-----------------|------------|-----------------|------------|-----------------------|------------|
| | No. of Patients | Percentage | No. of Patients | Percentage | | |
| Complete remission | 00 | 00 | 00 | 00 | 00 | 00 |
| Markedly Relieved | 00 | 00 | 01 | 01.92 | 01 | 00.96 |
| Moderately Relieved | 33 | 64.46 | 19 | 36.53 | 52 | 50.00 |
| Mild Relieved | 19 | 36.53 | 32 | 61.53 | 51 | 49.04 |
| LAMA | 00 | 00 | 00 | 00 | 00 | 00 |

Table 14: Chi-Square test wrt Total Effect of therapy

| Total Effect | Markedly Relieved | | Moderately Relieved | | Mildly Relieved | | Total No. of Patients |
|---------------|-------------------|-------------|---------------------|--------------|-----------------|--------------|-----------------------|
| Trial Group | Observed | 0 (0.50) | Observed | 33 (1.88) | Observed | 19 (1.66) | 52 |
| | Expected | 0.50 | Expected | 26 | Expected | 25.50 | |
| Control Group | Observed | 1 (0.50) | Observed | 19 (1.88) | Observed | 32 (1.66) | 52 |
| | Expected | 0.50 | Expected | 26 | Expected | 25.50 | |
| Total | | 1 | | 52 | | 51 | 104 |

The Total Chi-square statistic is 8.083.

The p value is 0.017571.

Degree of Freedom = 2

Sample Size = 104 (Including both Group)

The result is significant at $p < 0.05$. Considered significant difference, therefore Trial Group is better.

DISCUSSION

Today's 21st century's life style of human being is fast and changing continuously. This fast lifestyle is stressful and become hectic to the individuals. Peoples are involved in such work that they have to face occupational diseases. Human is continuously trying to adapt to the situation. This adaptation of change in the lifestyle and posture of body gives rise to various diseases called as life-style disorders. Cervical spondylosis is one of them. Cervical spondylosis occurs early in person having 'White collar job' as these people are more susceptible to neck strain because of keeping the neck constant in one position while working. People working for long time on computers, long time driving, tailoring, housewives who works at home in bending position for prolonged time and any such activities, which continuously give strain to the neck, are responsible for cervical spondylosis. Negligence towards exercise is very common nowadays because of busy daily schedule. Lack of exercise is resulting in weak musculature. Cervical Spondylosis founds universally almost in every person over 50 years of age. Age related degenerative changes are responsible for it.

While going through review of literature available in Ayurveda, cervical spondylosis can be correlated with Manyagraha. Manyagraha is one of the Vatavyadhi mentioned in classics. Detailed description about signs and symptoms of Manyagraha is not available in any Samhita. But considering the generalized signs and symptoms of Vatavyadhi, Sthana and different Hetus, Lakshanas of Manyagraha can be summarized. Bhalchim Y. (2016) in her research article entitled "A Clinical Study on The Management with Specific Reference to Cervical Spondylosis by Nasya with Herbo-Mineral Drug" has defined cervical spondylosis as Manyagraha.

Considering these views, it was thought in mind to evaluate effect of Anu Taila Nasya with Erandamula Ghanavati in Manyagraha and to compare its effect with the drugs quoted by Bhalchim Y (2016). Panchatikta Ghrita Guggulu along with Anu Taila Nasya was used by her. Description of Charak prompted to use Erandamula being one of the best to alleviate Vata.

In this study entitled "Randomized Control Trial on Erandamula Ghanavati with Nasya in Manyagraha with special reference to Cervical Spondylosis" treatment was given in two groups as

mentioned in materials and methods for a period of 21 days and their effects were compared.

The clinical features of Manyagraha were studied and noted in all 104 patients. These symptoms were observed and graded according to their status described in earlier topic of Criteria of Assessments. Being graded, non-parametric test such as Wilcoxon Signed Rank Test was used to evaluate the effect of therapy on symptoms.

While going through foresaid effect of therapy in both groups on symptom score, score of sections of Oswestry Neck Disability Questionnaire and range of movement of neck over all more percentage of relief was highlighted by drug in Trial Group.

Comparison between two groups with respect to symptom score, score of sections of Oswestry Neck Disability Questionnaire and range of movement of neck carried by Man Whitney Test, was insignificant. However further comparison between the two groups was carried out with respect to Total Effect of Therapy. Chi-Square Test was carried out, the Chi Square Statistics of this study was 8.083, at P value 0.017571, which was highly significant. It indicated that one of the Trial Group has better effect than Control Group considering total Effect of Therapy. It might be because of the properties of Erandamula Ghanavati as described earlier.

Treatment protocol in Trial Group comprised of administration of Nasya by Anu Taila along with oral administration of Erandamula Ghanavati, while in control group Panchatikta Ghrita Guggulu along with administration of Anu Talia Nasya was there. As stated by Charak Erandamula is best Vatahara drug. Its Rasa, Virya, Vipak, as described in Drug Under trail are helpful to alleviate Vata. The symptoms of Vikrit Vata such as Sransa, Vyadh etc⁴ are going to be alleviated by the therapy in Trial Group.

Vayu is Ashrayi of Asthi Dhatu. According to Ashraya-Ashrayi Sambhandha explained by Vagbhata, Asthi Dhatu is responsible for balance of Vata Dosha. Further, Arunadatta explained that nourishment of Asthi is responsible for alleviation of Vayu.⁵

While explaining the treatment for Dhatu-Vridhhiand Kshyaya, Vagbhata depicted that for Asthi-Kshaya, Tikta Rasayukta Kshira or Ghrita should be given or Basti of such drugs will be effective for the same.⁶ Arunadatta explained the role of Tikta Rasa with Snigdha Guna in Asthi Dhatu Kshyaya. Kharata, Rukshata, Parushata and Singdhata are responsible for formation of Asthi-Dhatu. Tikta Rasa causes Kharata and Parushata Karma in Meda Dhatu and are responsible for Prakriti Meda-Pachana and Asthi-Formation. However, these properties of Tikta Rasa

aggravate Vayu. Therefore, Snigdha Guna in the form of Kshira or Ghrita must be supplemented in it. Panchatikta Ghrita Guggulu contains Tikta Rasa. Panchatikta Ghrita Guggulu is useful in Kaphasanshrushta Vata as Tikta Rasa is responsible for Strotoshuddhi and Kapha-Haran. According to this, in Avarodha-Janya Samprapti of Vatavyadhi, Panchatikta Ghrita Guggulu is best remedy. Erandamula having Snigdha, Madhura properties is going to be beneficial in Dhatukshayajanya Vatavyadhi.

Tikta Rasa is Sangrahi, Ruksha, Shita, responsible for Shoshana and Kapha- Pitta Shamana. Excessive intake of Tikta Rasa is responsible for Vitiating of Vata.⁷ For this purpose in Panchatikta Ghrita Guggulu, Goghrita is added to control the Rukshan Karma of Tikta Rasa. Panchatikta Ghrita Guggulu is useful in Kaphasanshrushta Vata as Tikta Rasa is responsible for Strotoshuddhi and Kapha-Haran. According to this, in Avarodha-Janya Samprapti of Vatavyadhi, Panchatikta Ghrita Guggulu is best remedy. Erandamula having Snigdha, Madhura properties is going to be beneficial in Dhatukshayajanya Vatavyadhi.

As stated earlier in this study Patients of more than 40 year of are maximum in number and in this age group naturally Vata Dominance is more.⁸ More patients of Dhatukshaya Hetu were found in this study. For Vatavyadhi having Dhatukshaya Samprapti Erandamula Ghanavati is more effective than Panchatikta Ghrita Guggulu. Therefore, in this study trial Group showed better results than that of Control Group with respect to total effect of therapy.

CONCLUSION

It is very evident from the observation and result of this study that Erandamula Ghanavati along with Anu Taila Nasya has definitely reduces symptoms of Manyagraha with special reference to cervical spondylosis. It was observed that by using Wilcoxon Ranked sign test that symptom score and Oswestry Neck disability Index Score were reduced significantly in both groups. Range of Movement of Neck was observed to be increased by drug of both Groups. Wilcoxon Ranked sign test for this in both groups were extremely significant. Total effect of therapy depicted that 64.46% and 36.53% patients of Trial Group and Control Group respectively were having moderate improvement.

The Chi Square Statistics of this study was 8.083 and P value 0.017571 which was highly significant. Total effect of therapy is more in Trial group as compared to the Control Group.

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