

**Effect of *Griva Basti* In The Management Of
Griva Shoola (Neck Pain)
Due to *Sandhigata Vata***

Phyo Thinzar¹, Su Mon Khaing¹, Wint Theingi¹, Yin Yin Thi¹, Than Ohn¹, Maung Maung Thet¹, Dr Kyaw Oo², Kyaw Thein Htay¹, Theim Kyaw¹

1. University of Traditional Medicine, Mandalay

2. Department of Human Resources for Health

Introduction

- *Griva shoola* (neck pain) can be defined as pain located in the anatomical region of the neck with or without radiation to the head, trunk, and upper limbs. It defines the posterior neck region from the superior nuchal line to the spine of the scapula (Guzman *et al.*, 2008)
- Neck pain is one of the most common musculoskeletal disorders and it is a major public health problem (Fejer, 2006)

Introduction

- Neck pain is very common problem and the International Association of the Study of Pain stated that; Neck pain affects thirty-fifty percent of the general population annually.
- Fifteen percent of the general population will experience chronic neck pain (>3 months) at some point in their lives
- Eleven-fourteen percent of the working population will annually experience activity limitations due to neck pain
- Prevalence peaks at middle age and women are more often affected than men (IASP, 2009)

Introduction

- The principle of movement is the predominant function with the musculo-skeletal system and the nervous system
- Problems relating to these systems are predominantly caused by vitiated *vata*
- It affected the joints producing pain, swelling and impairment of the function of the joints and this indisposition is identified as *sandhigata vata* (Lochan & Byadgi, 2011)

Introduction

- It is a clinical condition in which structural as well as functional derangement takes place during the process of pathogenesis when the vitiated *vayu* gets localized into the cervical joints and even paraplegia occur due to this condition (Sehgal *et al.*, 2009)
- *Griva shoola* (neck pain) is caused by *amavata*, *vatarakta* and *sandhigata vata*. Among them neck pain due to *sandhigata vata* is frequently seen

Introduction

- In general principles of treatment of *vatika* diseases, the vitiated *vata* should be treated by drugs having sweet, sour and saline taste and unctuous and hot qualities and by such devices as oleation, fomentation, unction and affusion
- All these should contain materials having anti-*vatika* properties of medicated oil (Babu, 2006)

Introduction

- In Traditional Medicine Teaching Hospitals, there are many treatment procedures such as massotherapy, *nadi sweda*, *griva basti*, external applications, hot fomentation, acupuncture therapy and medication in the management of neck pain disorders

Introduction

- *Griva basti* is the procedure of applying heat to the cervical region (*griva sandhi*) by retaining warm poly medicated oil, in which both the properties of *snehana* and *svedana* are incorporated

Introduction

- Although, *Griva basti* is clinically effective in treatment of neck pain, there is no scientific evidence about its effectiveness in Myanmar
- Therefore, this study intended to find out the effect of *Griva basti* using poly-herbal medicated oil in the management of neck pain due to *sandhigata vata*

Objectives

1. To assess the clinical features of *griva shoola* due to *sandhigata vata* patients on day 0, day 5, day 11 and day 17
2. To compare the effectiveness of *griva basti* in the management of *griva shoola* on day 0, day 5, day 11 and day 17

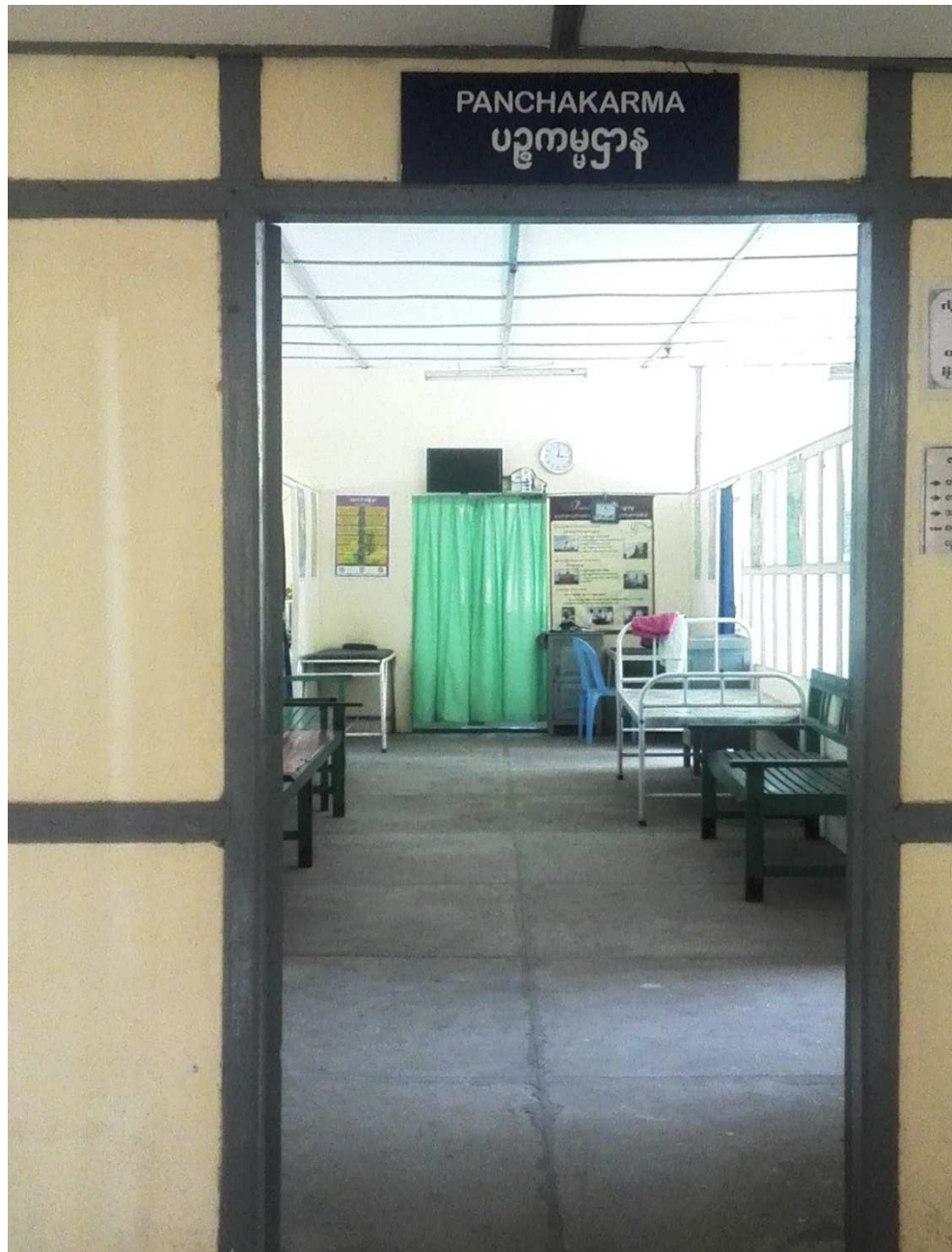
Materials and Methods

Study Design

- Hospital based Quasi-experimental study

Study area

- Panchakarma Department at 100 Bedded
TMTH, Mandalay



3/30/2018

Phyo Thinzar

Materials and Methods

Study Period

- One year (1st September 2015 to 31st August 2016)

Study Population

- 34 Patients with neck pain due to SGV who were in accordance with the inclusion and exclusion criteria

Inclusion criteria

- 1) Patients aged between 30-60 years of age
- 2) Both sex
- 3) Patients presenting with signs and symptoms of neck pain due to *sandhigata vata*

Exclusion criteria

- 1) Patient with co-morbid disease
(such as fractures of cervical spine)
- 2) Pregnant women
- 3) Patients with Tuberculosis of spine and tumors
- 4) Case of Diabetes mellitus (RBS > 11.1mmol/L)
- 5) Severe hypertension (Systolic blood pressure ≥ 180 /diastolic blood pressure ≥ 110 mmHg)

Criteria for assessment

1. Pain (VAS)
2. Pain radiation
3. Tenderness
4. Headache
5. Flexion
6. Extension
7. Left bending
8. Right bending
9. Left rotation
10. Right rotation

Criteria for assessment

- Symptomatic and functional improvement was measured with the following outcome parameters. They are Visual Analogue Scale (VAS)
- Intensity of the present neck pain was scored by visual analogue scale. VAS was used for rating the intensity of pain
- Goniometer (HANS.w TOOLS) were used for assessment in cervical joint movements

Table-1 Assessment Criteria

Signs and symptoms	Score 1	Score 2	Score 3	Score 4
Pain (VAS)	0	1/2/3	4/5/6	7/8/9/10
Tenderness	No	Tenderness on pressure	Tenderness on movement	Doesn't allow to touch
Headache	No	Mild	Moderate	Severe
Flexion	80°	54° - 79°	28° - 53°	<28°
Extension	50°	34° - 49°	18° - 33°	<18°
Left bending	45°	30° - 44°	15° - 29°	<15°
Right bending	45°	30° - 44°	15° - 29°	<15°
Left rotation	80°	54° - 79°	28° - 53°	<28°
Right rotation	80°	54° - 79°	28° - 53°	<28°
Pain radiation	Absent		Present	

Table 2.Assessment Chart

SI. No	Signs and Symptoms	Score for Assessment			
		Day 0	Day 5	Day 11	Day 17
1	Pain				
2	Radiation of pain				
3	Tenderness				
4	Headache				
5	Flexion				
6	Extension				
7	Left bending				
8	Right bending				
9	Left rotation				
10	Right rotation				

Figure 2.Measurement of ROM of neck with Goniometer



Materials

- Flour (250-300 grams)
- Poly-herbal medicated oil
- Facility for heating
- Copper Frame
- Bedstead
- metallic cup
- Glove
- Towel
- Spittoon
- Thermometer

Figure 3. Ingredients of Poly-herbal medicated oil



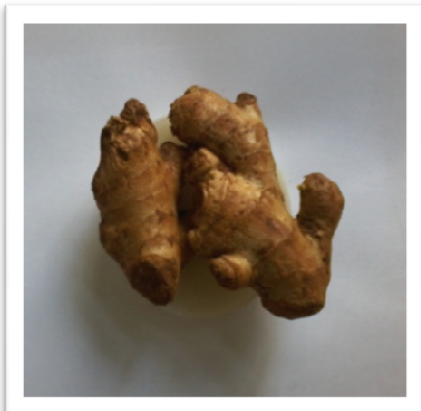
Fruits of *Phyllanthus emblica*



Fruits of *Terminalia chebula*



Fruits of *Terminalia bellerica*



Zingiber officinale



Ricinus communis



Vitex negundo

Figure4. Ingredients of Poly-herbal medicated oil



Rhizome of *Acorus calamus*



Sesamum oil

Figure 5. Preparation of materials for procedure



Poly-herbal medicated oil



Preparation of material for procedure

Treatment Procedure

- The subjects were selected according to inclusion criteria
- Patients' consent was taken by using consent form
- A complete history was taken and thorough physical examinations were performed according to pro-forma

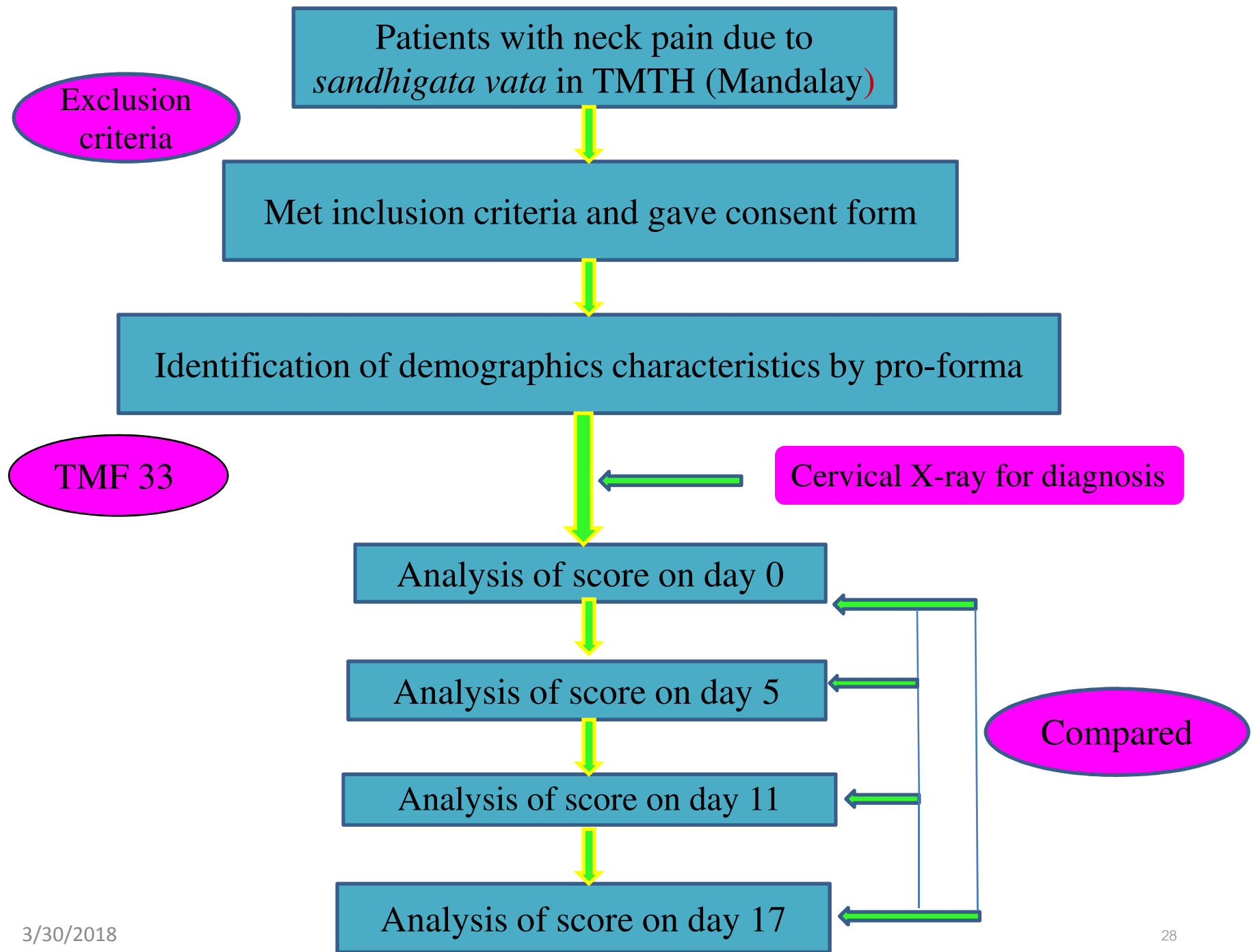
Treatment Procedure

- Radiological assessment (X-ray of cervical region :anterioposterior and lateral view) were carried out
- These assessments were reviewed by Senior Consultant Radiologist
- Registered patients of neck pain were prescribed for oral administration of TMF-33, 5 tablets (4g) × two times after meal per day with lukewarm water during the period of study

The *Griva basti* procedure includes

- (1) *Purva Karma* (Preparation of the patients)
- (2) *Pradhana Karma* (Operative procedure)
- (3) *Pashchat Karma* (Post – operative therapy)

- The duration of the study was last for 17 days. The treatment was given for five consecutive days, and rest on every 6th day
- The outcome data were collected and observed before treatment (on day 0) and on 5th day, 11th day and on 17th day of the treatment in this study



Detailed Procedure of *Griva basti*

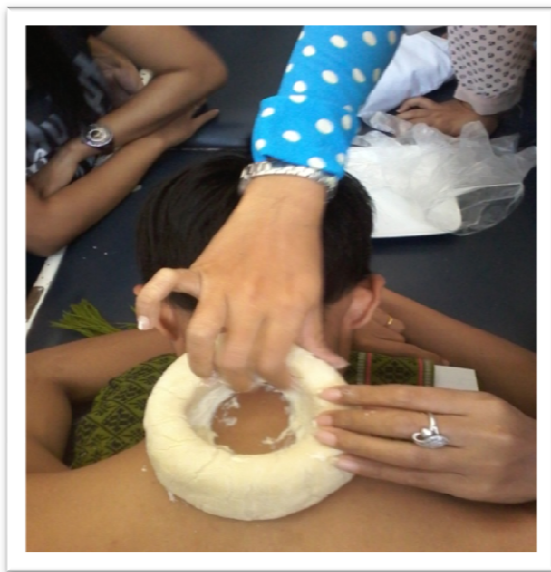
Purva karma (Preparation of the patient)

- If the patient is not in prone position; to carry out the procedure of *Griva basti* the patient was made to sit on knee high stool, with patient's arm and head resting on a chest high table kept in front the patient
- In this position, the trunk was slightly bent forwards, neck flexed and the forehead is resting on the table

Pradhana Karma (Operative procedure)

- **Making frame:** The flour paste was made a frame as a ring approximately 3 inches in diameter and 1.5 inches in high
- It was placed on the patient's cervical region
- The gap between the skin and the paste was sealed by pressing at both inside and outside surface of the ring

Figure 6. Making frame



Making frame

Pradhana Karma (Operative procedure)

- **Pouring oil:** Poly-herbal medicated oil was heated up to 38-40°C and poured into the frame, filled to the upper level of the oil approximately 1 inch above the skin
- **Performing gentle massage:** For performing gentle massage, the therapist dips one of thumb in the oil inside the frame and moved the thumb in linear fashion on the cervical spine applying gentle and firm pressure about 10 minutes

Figure 7. Performing *Griva basti* procedure



Pouring oil



Performing gentle massage

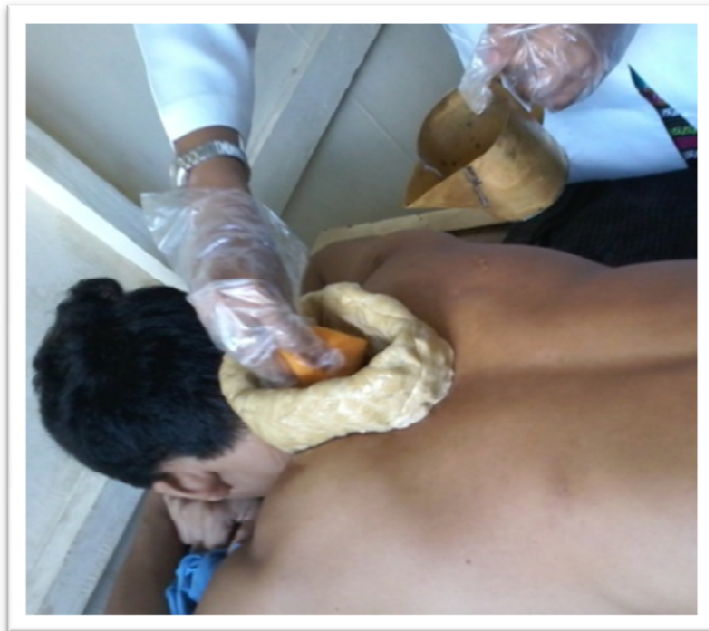
Figure8. Performing *griva basti* with poly-herbal medicated oil



Pradhana Karma (Operative procedure)

- **Changing the oil:** On cooling, the oil was reheated and replaced at regular intervals so that the temperature was maintained uniform throughout the procedure. In this way, changing the oil was done three times
- **Removing the oil and frame:** The procedure heating the cervical region with warm oil was carried out for about 30 minutes. And then the poly- medicated oil and frame was removed

Figure 9.Changing the medicated oil



Changing the medicated oil

Pashchat Karma (Post- operative procedure)

- After removing the oil and frame, *abhyanga* (external application of oil) was done over the cervical spine for about 5 minutes
- Performing the body parts was cleaned by towel which was heated by boiling water
- The patient was allowed to relax and take rest by lying in the supine position inside the room

Figure10. Performing *Abhyanga*



Data Collection and Data Analysis

- The effectiveness was analyzed by Paired t -Test and General Linear Model method by using SPSS software (version 21)
- A significant level of p value was 0.000 in this study

Finding

Figure11. Distribution of neck pain patients by Age

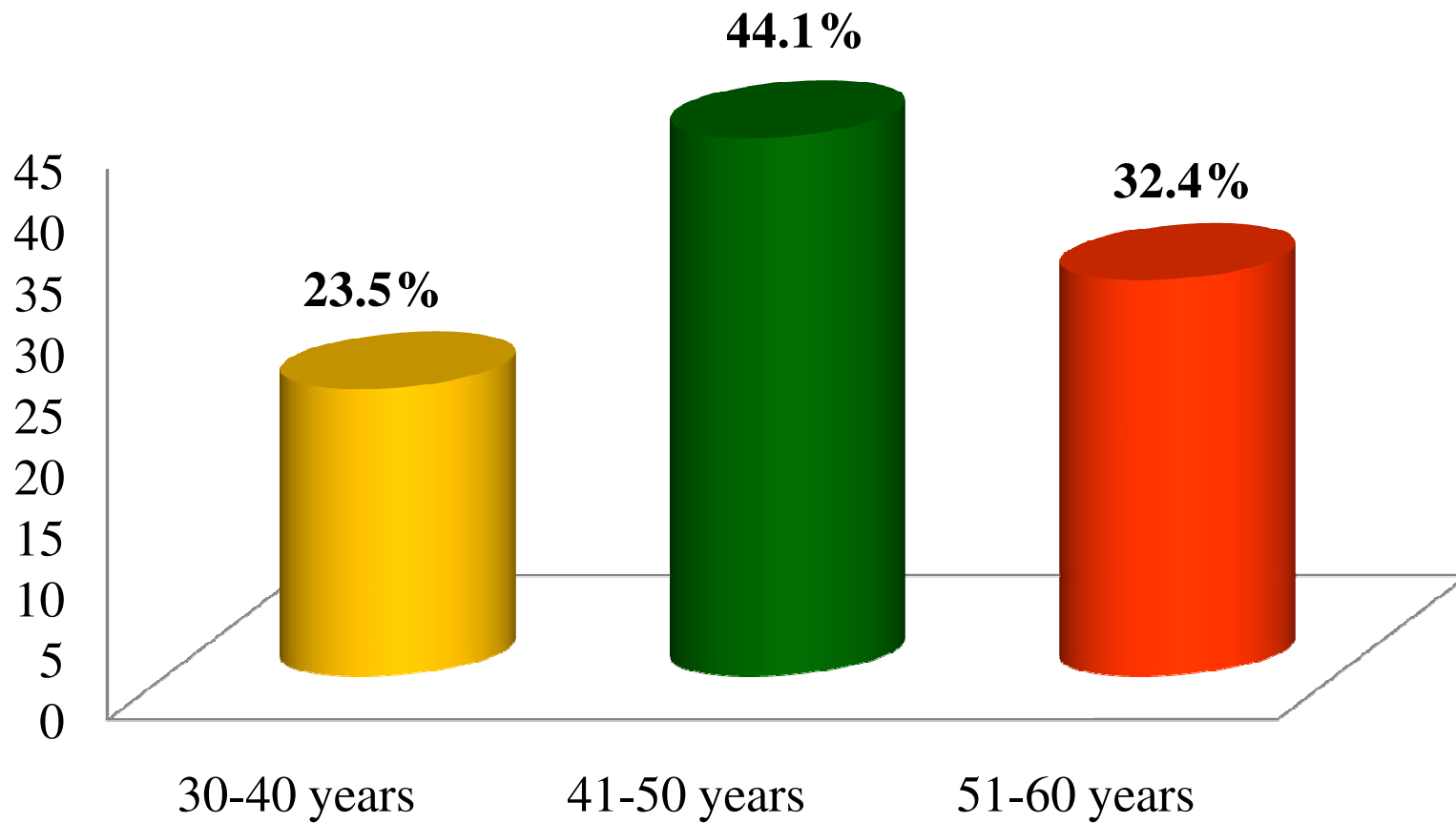


Figure12. Distribution of neck pain patients by sex

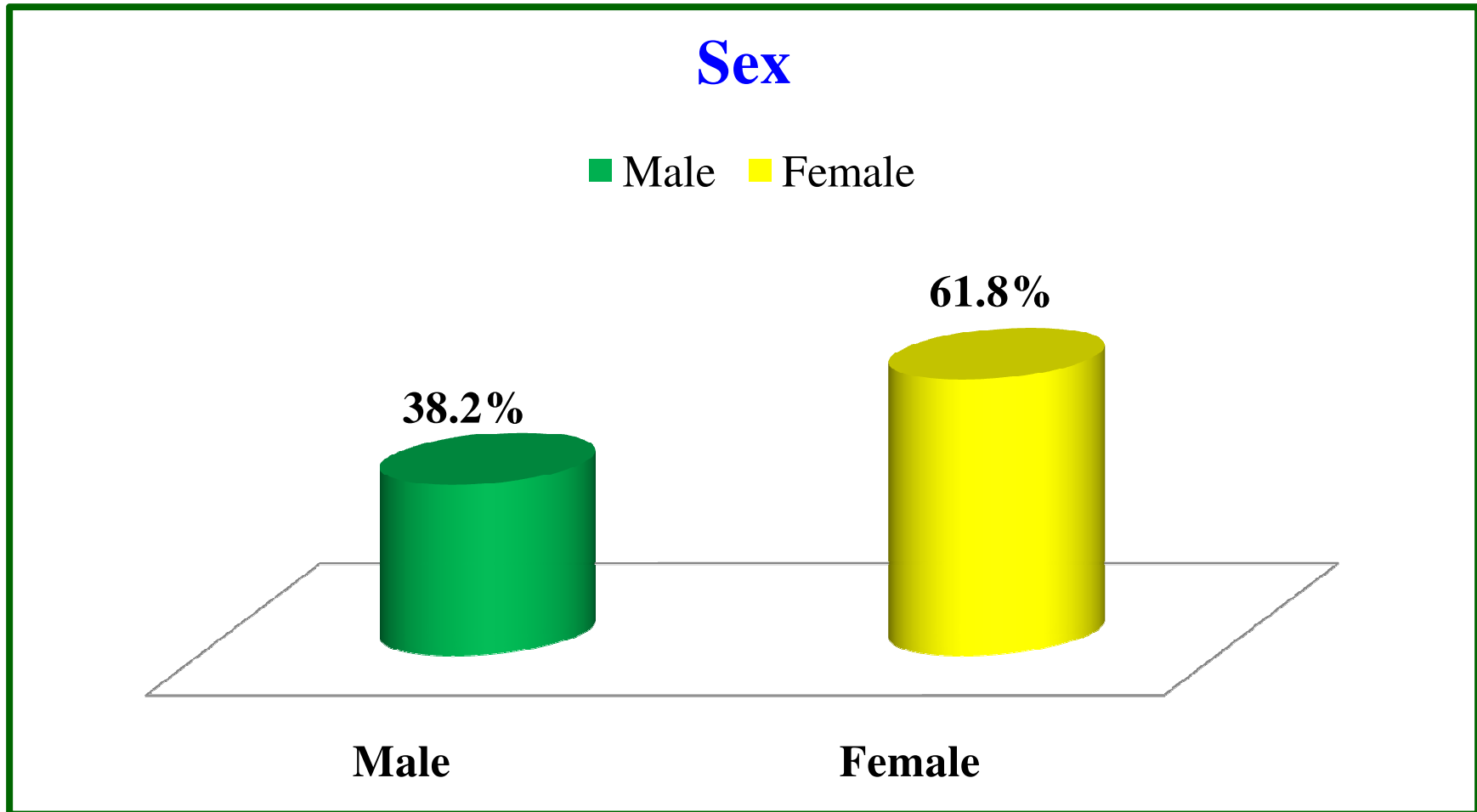


Figure13. Distribution of neck pain patients by occupation

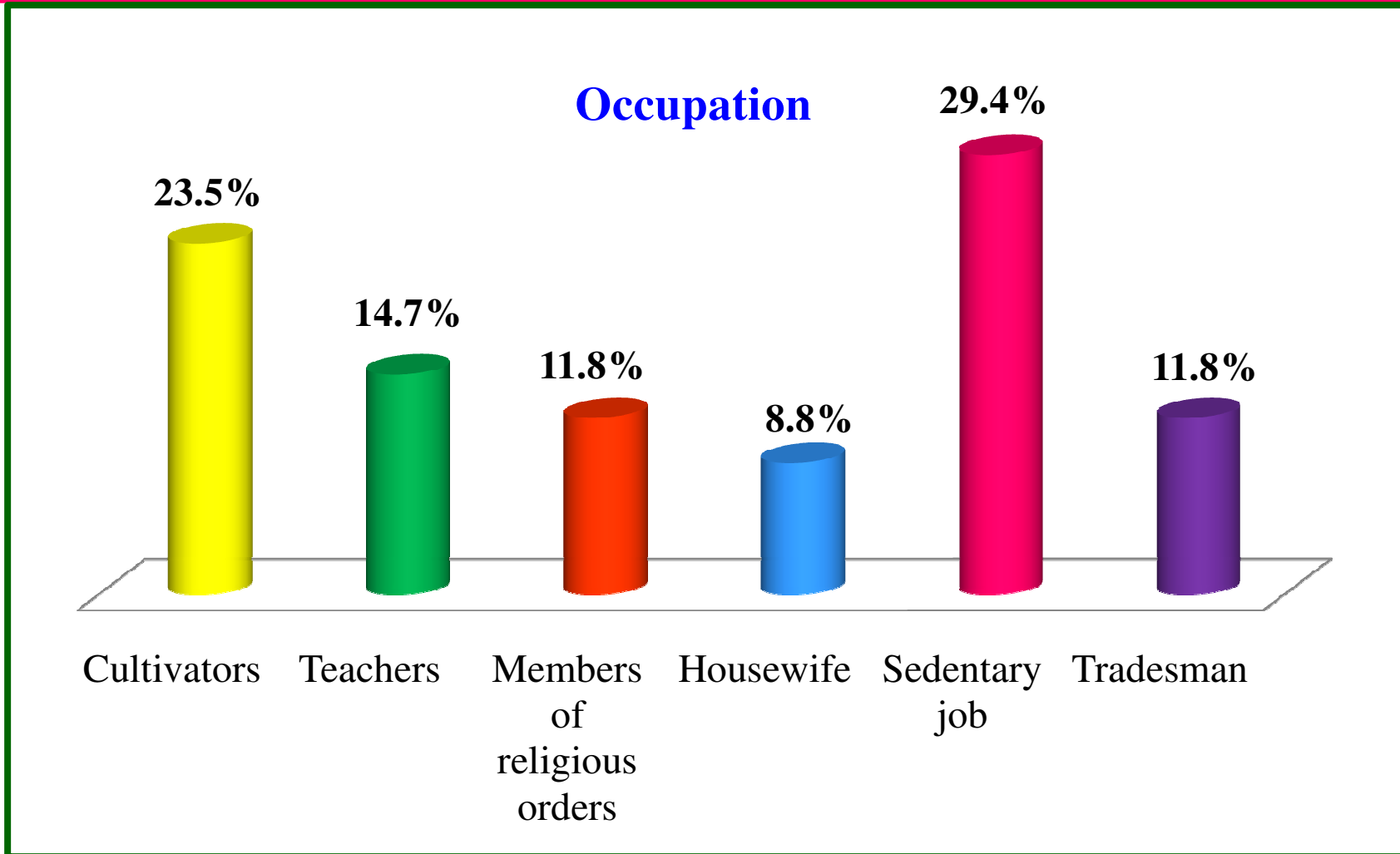


Figure14. Distribution of neck pain patients by duration

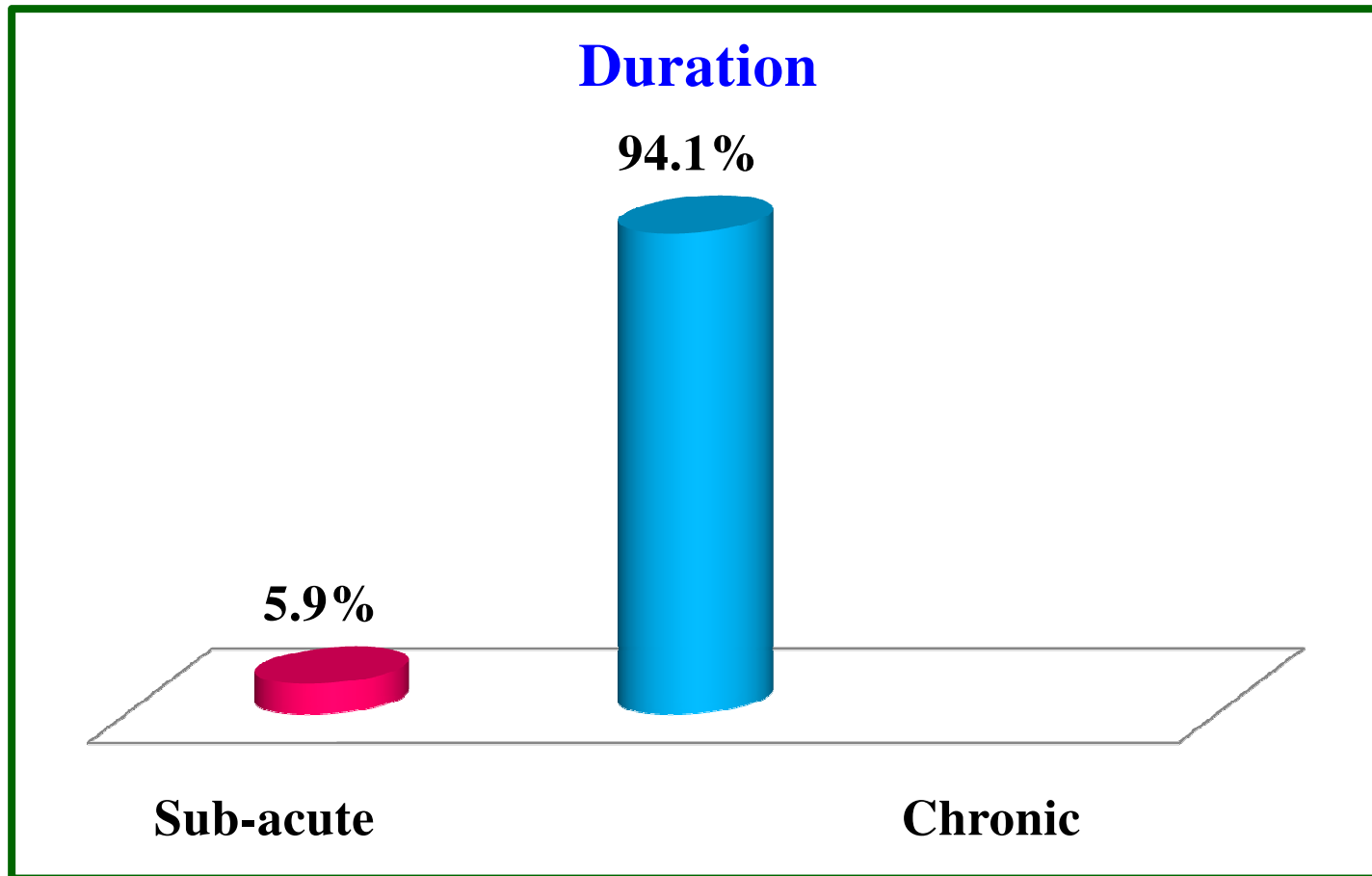
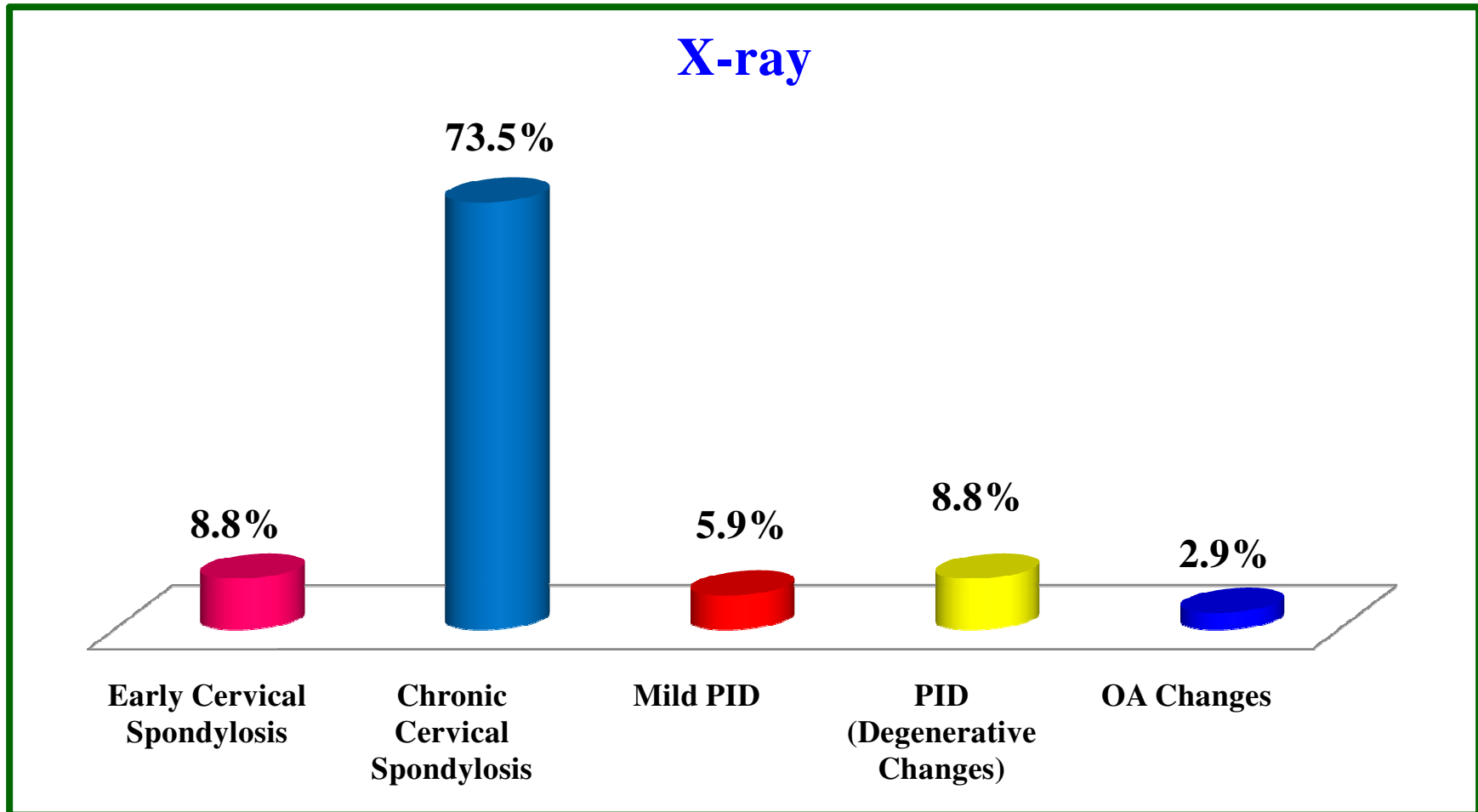


Figure15. Distribution of neck pain patients by X-ray



**Figure16. Serial improvement of pain in day 0,
day 5, day 11 and day 17**

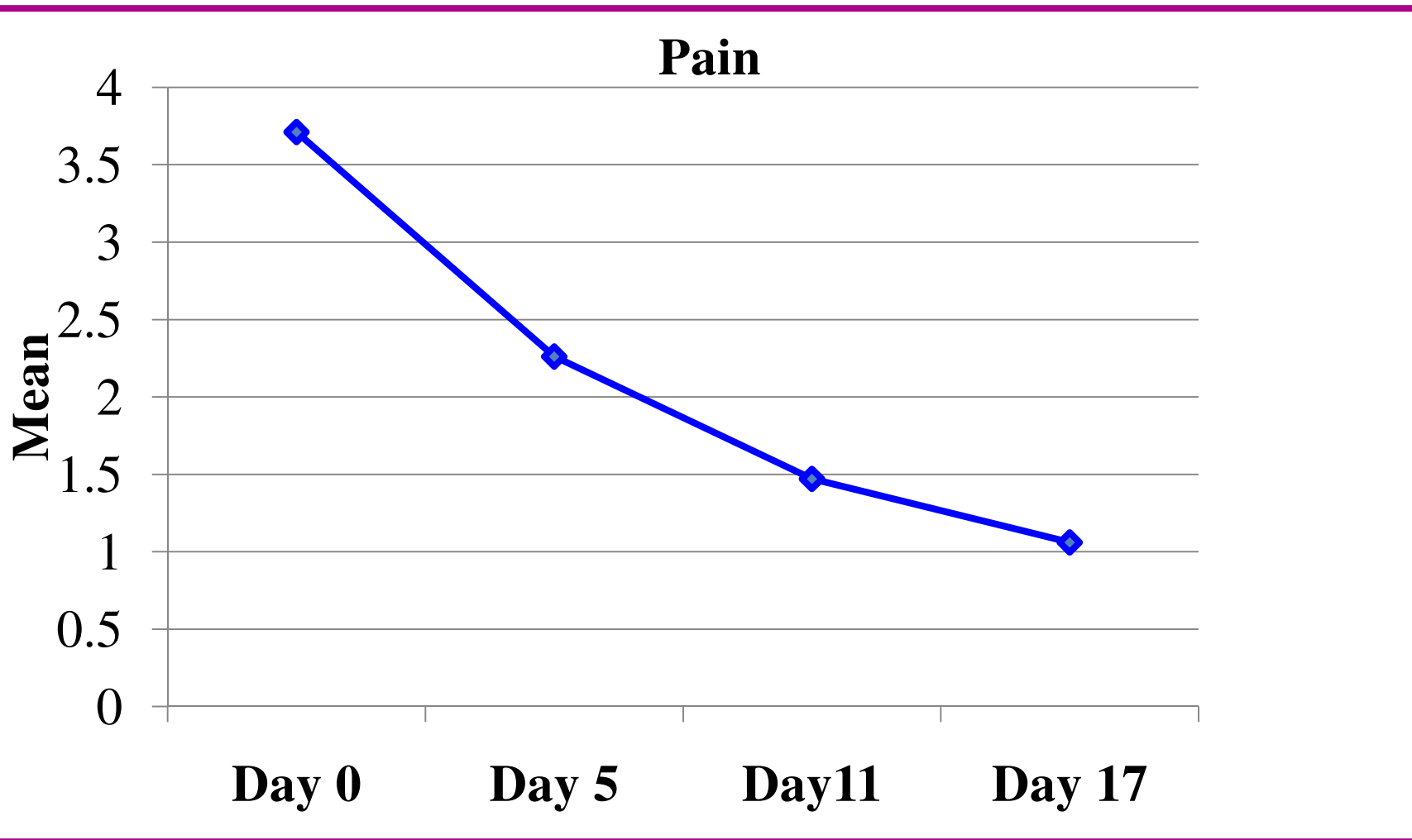


Figure17. Serial Improvement of Pain radiation on neck pain due to SGV Patients

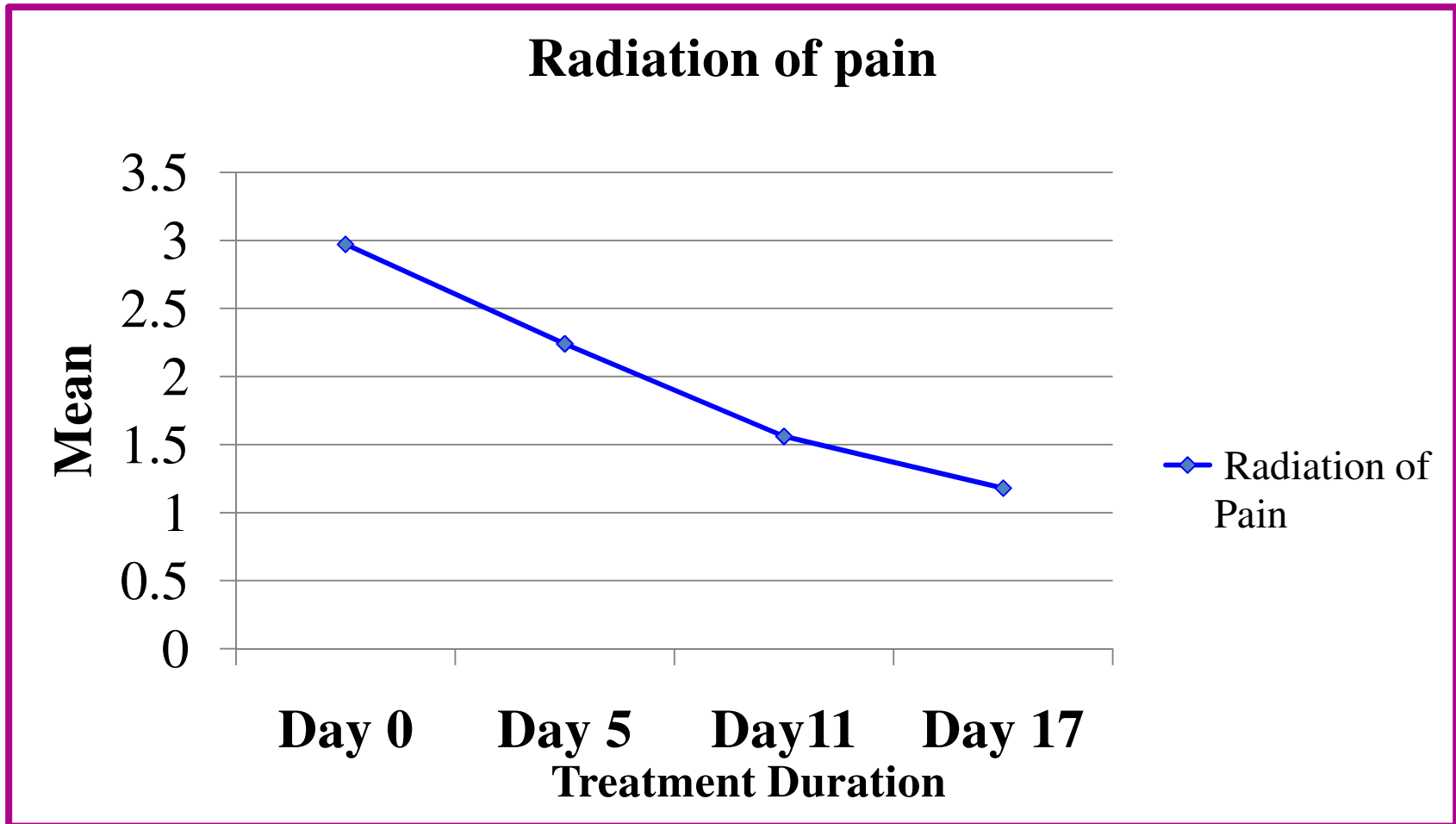


Figure18. Serial improvement of signs and symptoms

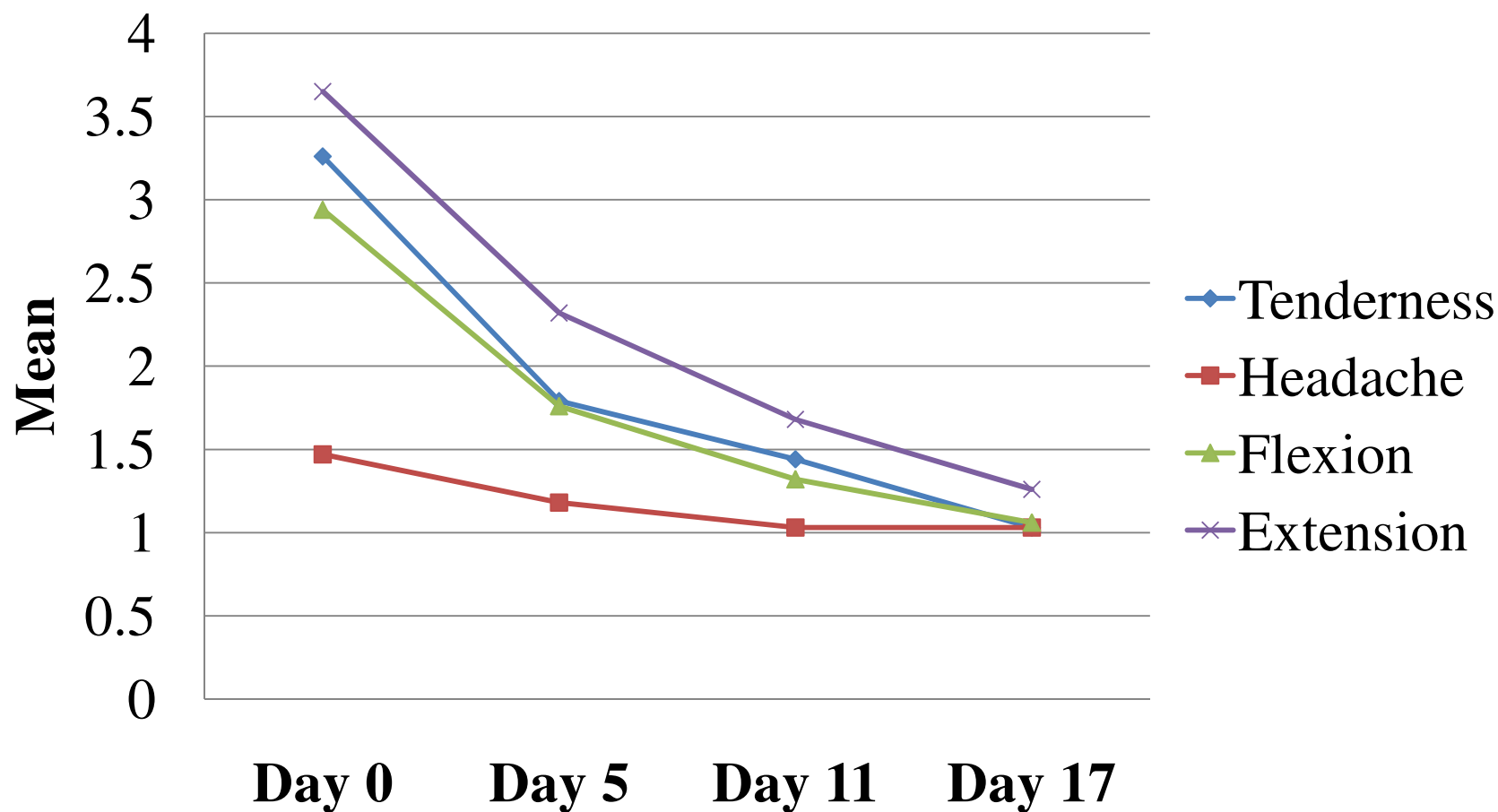


Figure19. Serial improvement of signs and symptoms

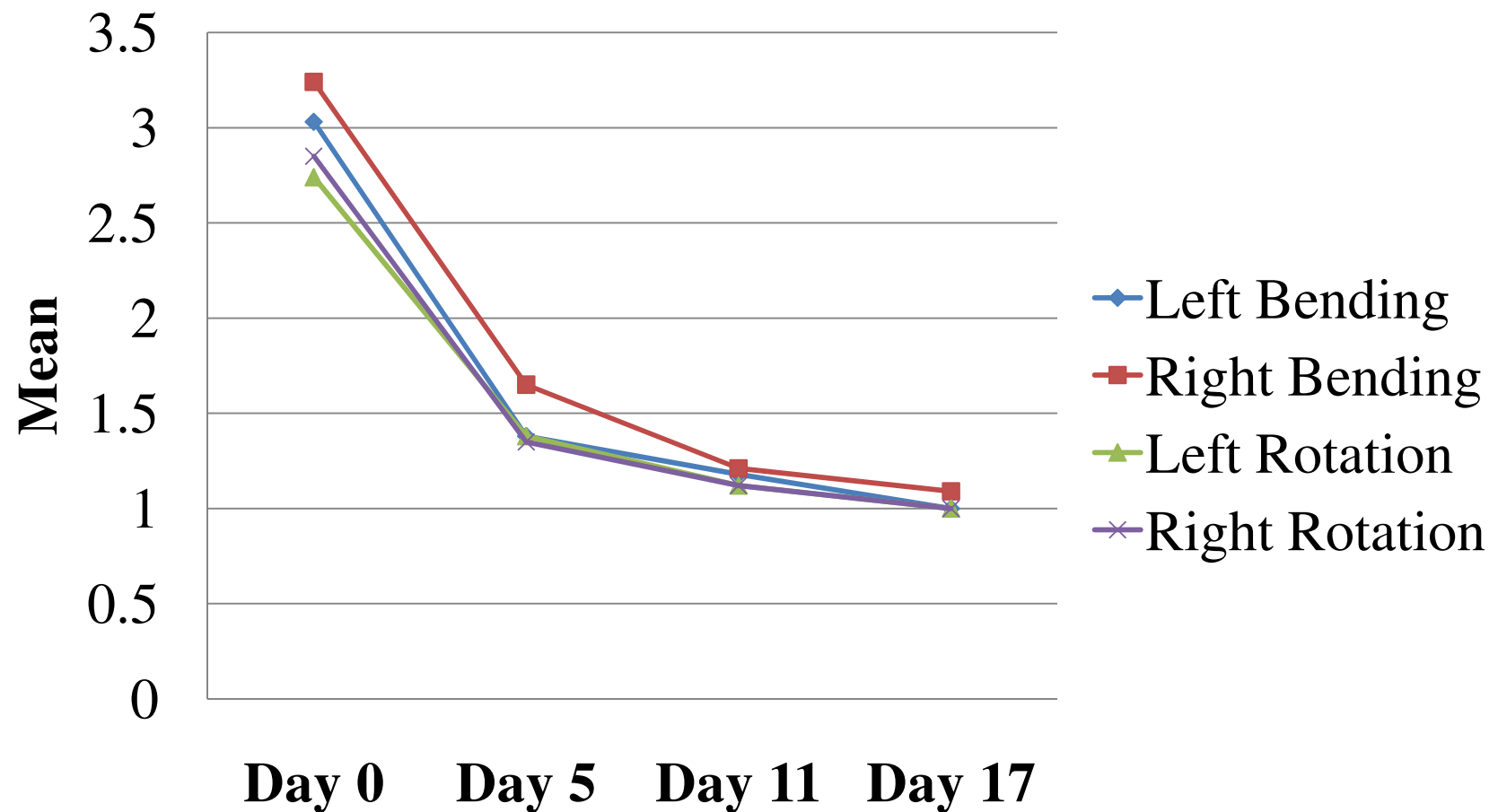


Table 3. Serial improvement of signs and symptoms of neck pain due to *sandhigata vata*

No.	Signs and Symptoms	Duration	Mean		Difference	P value
			Before	After		
1	Pain	Day 0-5	3.71	2.26	1.44	.000
		Day 0-11	3.71	1.47	2.24	.000
		Day 0-17	3.71	1.06	2.65	.000
2	Radiation of pain	Day 0-5	2.97	2.24	.735	.000
		Day 0-11	2.97	1.56	1.41	.000
		Day 0-17	2.97	1.18	1.79	.000
3	Tenderness	Day 0-5	3.26	1.79	1.47	.000
		Day 0-11	3.26	1.44	1.82	.000
		Day 0-17	3.26	1.03	2.24	.000
4	Headache	Day 0-5	1.47	1.18	.29	.000
		Day 0-11	1.47	1.03	.44	.000
		Day 0-17	1.47	1.03	.44	.000
5	Flexion	Day 0-5	2.94	1.76	1.18	.000
		Day 0-11	2.94	1.32	1.62	.000
		Day 0-17	2.94	1.06	1.88	.000

Table 4. Serial improvement of signs and symptoms of neck pain due to *sandhigata vata*

No.	Signs and Symptoms	Duration	Mean		Difference	P value
			Before	After		
6	Extension	Day 0-5	3.65	2.32	1.32	.000
		Day 0-11	3.65	1.68	1.97	.000
		Day 0-17	3.65	1.26	2.38	.000
7	Left bending	Day 0-5	3.03	1.38	.735	.000
		Day 0-11	3.03	1.18	1.41	.000
		Day 0-17	3.03	1.00	1.79	.000
8	Right bending	Day 0-5	3.24	1.79	1.59	.000
		Day 0-11	3.24	1.44	2.03	.000
		Day 0-17	3.24	1.03	2.15	.000
9	Left rotation	Day 0-5	2.74	1.38	1.35	.000
		Day 0-11	2.74	1.12	1.62	.000
		Day 0-17	2.74	1.00	1.74	.000
10	Right rotation	Day 0-5	2.85	1.35	1.50	.000
		Day 0-11	2.85	1.12	1.74	.000
		Day 0-17	2.85	1.00	1.85	.000

Table 5. Effect of *griva basti* according to signs and symptoms in neck pain patients

No.	Signs and Symptoms	Mean Percent (%) Improvement
1	Pain	71.4
2	Radiation of pain	60.3
3	Tenderness	68.7
4	Headache	30
5	Flexion	63.9
6	Extension	65.2
7	Left bending	67
8	Right bending	66.4
9	Left rotation	63.5
10	Right rotation	64.9

Table 6. Overall effect of *Griva basti* on neck pain patient's base on the percentage

Improvement level	Number of patients	Percent
Cure	0	0
Marked	24	70.6
Moderate	10	29.4
Mild	0	0
Unchanged	0	0

Discussion

According to *Desana* System of Medicine view, signs and symptoms of neck pain due to *sandhigata vata* can be considered as the following:

- Pain, swelling, tenderness, loss of cervical ranges of motion are vitiated by hyperactivity of *vitthambhita vayo*
- Loss of cervical ranges of motion in cervical region are aggravated by hypoactivity of *mudhu prithvi*

Discussion

- Headache and pain in cervical region are aggravated by hyperactivity of *abandana apo* and hypoactivity of *akasa parisheda*
- Therefore, neck pain due to *sandhigata vata* is vitiated by hyperactivity of *abandana apo* and hypoactivity of *prithvi*
- Among eight patterns of diseases according to *Desana* System of Medicine, *kakkhala*, 2nd *vitthambhita*, *sangahita* and 2nd *byuhana* patterns of diseases can be considered as neck pain due to *sandhigata vata* in *Ayurvedic Medicine*

Discussion

- *Griva basti* can provide to get *mudhu prithvi* and get functional property of *akasa* in the treatment of neck pain due to *sandhigata vata*. Its procedure gives *snigdhata* (unctuous) and *unha* (hot) effects. It relieves pain, stiffness and eases movements at the neck joint
- For this reason, the results of this study can be clearly proved that the concept of traditional medicine formulate the evidence for the principle of treatment in traditional medicine

Conclusion and Suggestion

- The present study, the sample size was small and the study period was limited. Therefore, it is recommended that the study should be done repeatedly with larger sample and longer duration

Conclusion and Suggestion

- Same study can be taken for comparing with the other treatments to determine the effectiveness of *griva basti* treatment procedure
- Based on the result of this clinical study, it can be concluded that *griva basti* was useful as a treatment guide and rational prescription in treating signs and symptoms of neck pain due to *sandhigata vata* without any side affect

Acknowledgements

- The authors would like to thank Acting Director General U Kyaw Thein Htay, and members of research congress for permitting to submit research paper. We would like to thank Rector, Prof. Dr Than Maung (Retd) ,Research Scientist, Daw Kyi Kyi Oo of University of Traditional Medicine, Mandalay for valuable suggestions. We are deeply grateful to Prof. Dr San San Htay and Dr Hla Moe, University of Medicine, Mandalay for statistical analysis. I express my gratefulness to several unnamed friends and colleagues who have helped me directly or indirectly. Lastly, but not the least, we would like to convey gratitude to all subjects who took part in this study without any hesitation

References

- Babu, SS. (2006). The Principles and Practice of Kaya Cikitsa (Ayurveda's Internal Medicine), Volume 3, Chaukhanbha Orientia, Varanisi, India, 61-64.
- Fejer, R. (2006). The Prevalence of neck pain in the world population: a systematic critical review of the literature Eur Spine J, Vol.15: 834-848.
- Guzman, J., Hurwitz, EL., Carroll, LJ., Haldeman, S., Cot, P. and Carragee, EJ. (2008). A new conceptual model of neck pain. Linking onset, course, and care: the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. Spine., 33(4S):S14–S23.

References

- IASP (International Association of the Study of Pain). (2009). Global year against musculoskeletal pain, Neck Pain, Available from: [http://www.Neckpain-final\(2\)pdf-Adobereader](http://www.Neckpain-final(2)pdf-Adobereader).
- Lochan, K. and Byadgi, PS. (2011). Encyclopedic Dictionary of Ayurveda, 1st Edition, Chaukhambha, New Delhi, 696.
- Sehgal, U., Rajagopala, M., Dwivedi, R. and Bavalatti, N. (2009). Role of *Agnikarma* and *Ajamodadivati* in the management of *Sandhigata Vata*, Institute for post graduate teaching and research in *Ayurveda*, Gujarat *Ayurved* University, Jamnagar., Vol.30: 345-349.

Thank You For Your Attention