The Effectiveness of *Greeva Vasti*, *Upanaha Sweda* and Oral Medication in Cervical Spondylosis Patients

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Introduction

- The cervical spine anatomy is a well-engineered structure of bones nerves muscles, ligaments, and tendons.
- The cervical spine is delicate –housing the spinal cord that sends massage from the brain to control all aspects of the body, while also remarkably strong and flexible, allowing movement in all directions.
- Cervical spondylosis which causes neck pain is a wear and tear of the vertebrae and discs.

- It is a conduction of degeneration of the inter-vertebral discs, which advances with advancing age and in course of time also involves the adjacent structures.
- It also leads to inflammatory changes which in turn brings about calcification (deposition of calcium) leading to extra bone formation called osteophytes.
- When the space between two adjacent vertebrae narrows, compression of a nerve root emerging from the spinal cord may result in radiculopathy.

- The patient may experience a phenomenon of paresthesia in hands and legs because of nerve compression and lack of blood flow.
- According to WHO speculative calculations, in 1990, the rate of bone and joint disease is in the NO.11 line open and it is estimated to arrive in third place which will harm the world's top human disease, in 2020.
- The treatment of bone and joint disease most commonly found amount the traditional hospital of Myanmar.

- According to study in July 2016- July 2017 32% of the total patients are bone and joint disease.
- In 2017 July, there are 1166 patients who were suffered bone and joint diseases. Among them 418 patients were neck pain due to cervical spondylosis diseases in 100 bedded Traditional Medicine Hospital Nay Pyi Taw.
- Among the spondylosis disease ,the cervical disease is found as the most common diseases

- In (100)bedded Traditional Medicine Hospital, Nay Pyi Taw, cervical spondylosis patients are treated with *Greeva vasti* , *Upanaha sweda* and oral medication are more effected.
- However, the effectiveness of *Greeva vasti*, *Upanaha sweda* and oral medication has not been scientifically studied yet.
- Therefore, this research was conducted to evaluate the effectiveness of *Greeva vasti* , *Upanaha Sweda* and oral medication on cervical spondylosis.

Objectives

- To Compare X ray results in Cervical Spondylosis patients before and after treatment
- To Compare range of movement of cervical spine in patients before and after treatments
- To Compare Signs and symptoms of cervical spine in patients before and after treatments

Materials and Methods

Study Design

- Hospital based clinical study

Study area

- Gynaecology Department at 100 Bedded TMTH, Nay Pyi Taw

Study Period

- 17th November 2017 to 30th April 2018

Study Population

- 30 Patients with neck pain due to cervical spondylosis who were in accordance with the inclusion and exclusion criteria

Inclusion criteria

- Patients aged between 40 -60 years of age
- Both sex
- Patients presenting with signs and symptoms of neck due to cervical spondylosis
- patients presenting with x ray result of cervical spondylosis

Exclusion criteria

- Pregnant women
- Lactating mother
- Severe hypertension (Systolic blood pressure>180/diastolic blood pressure>110).

Materials

- Flour (250-300 grams)
- Poly-herbal medicated oil
- Facility for heating
- Facility for Upanaha sweda
- Bedstead
- metallic cup
- Glove

- Towel
- Spittoon
- Thermometer
- Powder of Dan kyay Hsei
- Bundage and plaster
- Goniometer

Criteria for Assessments

- The improvement was assessed on the basis of relief in signs symptoms of cervical spondylosis as per criteria made for using scoring pattern and compare x ray result of before and after treatment.

- X ray
- Pain (VAS scale)
- Stiffness
- Radiate pain
- Numbness
- Dizziness
- Headache
- Tenderness

Cervical movement

- Flexion
- Extension
- Left rotation
- Right rotation
- Left sided bending
- Right sided bending

Assessment Criteria

Signs and symptoms	Score 1	Score 2	Score 3	Score 4
Pain	No pain	Mild	Moderate	Severe
Stiffness	No	Pain on active movement	Pain on passive movement	Inability to move
Radiate pain	Absent	Present		
Numbness	Absent	Present		
Dizziness	Dizziness while performing activity but no hindrance in the work	Dizziness that create that hindrance in the work	Inability to perform any work due to symptom	
Headache	No Headache	Occasional and without disturbance of daily activities	daily headache but no disturbance of daily activities	Disturbance of daily activities
Tenderness	No tenderness	No tenderness on the movement of the head but on the pressure	tenderness on the movement of the head	Tenderness that does not allowed the joint to be touched

Flexion	**52-64 degree**	**39-51 degree**	**26-38 degree**	**Below 26 degree**
Extension	**52-64 degree**	**39-51 degree**	**26-38 degree**	**Below 26 degree**
Left rotation	**60-79 degree**	**40-59 degree**	**20-39 degree**	**Below 20 degree**
Right rotation	**60-79 degree**	**40-59 degree**	**20-39 degree**	**Below 20 degree**
Left bending	**30-44 degree**	**15-29 degree**	**Below 15 degree**	
Right bending	**30-44 degree**	**15-29 degree**	**1Below 15 degree**	
X ray	**Mild**	**Moderate**	**Severe**	

Figure 1 . Ingredients of Poly-herbal medicated oil

Phyllanthus emblica

Terminalia chebula

Terminalia belerrica

Sesamum oil

Curcuma longa

Figure 2. *Greeva Vasti* Procedure

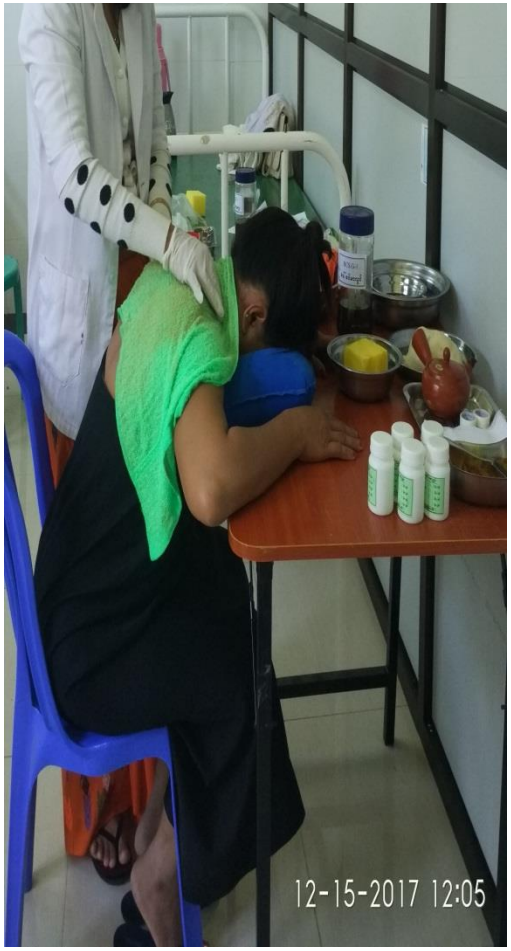


Figure 3 *Greeva Vasti* procedure

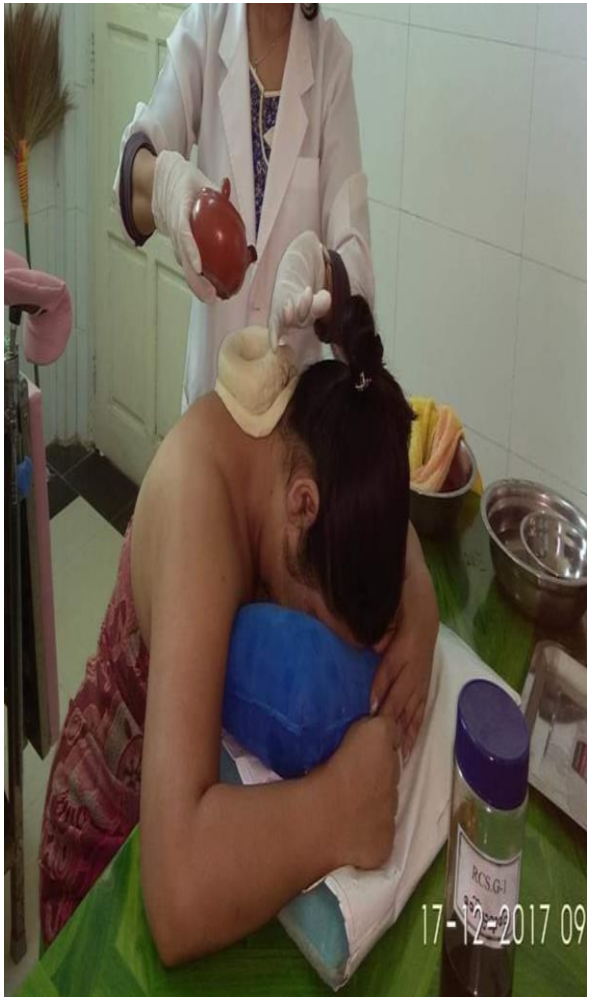


Figure 4. *Upanaha Sweda*

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 cervical spondylosis were prescribed for oral administration, morning TMF-6 + TMF 1+ TMF 21 (2:1:1) 4g with lukewarm water, afternoon TMF-6 + TMF 1 (1:1) 4g with lukewarm water , Evening TMF 15 4g× with water, TMF 11 4g with water before bed time during the period of study

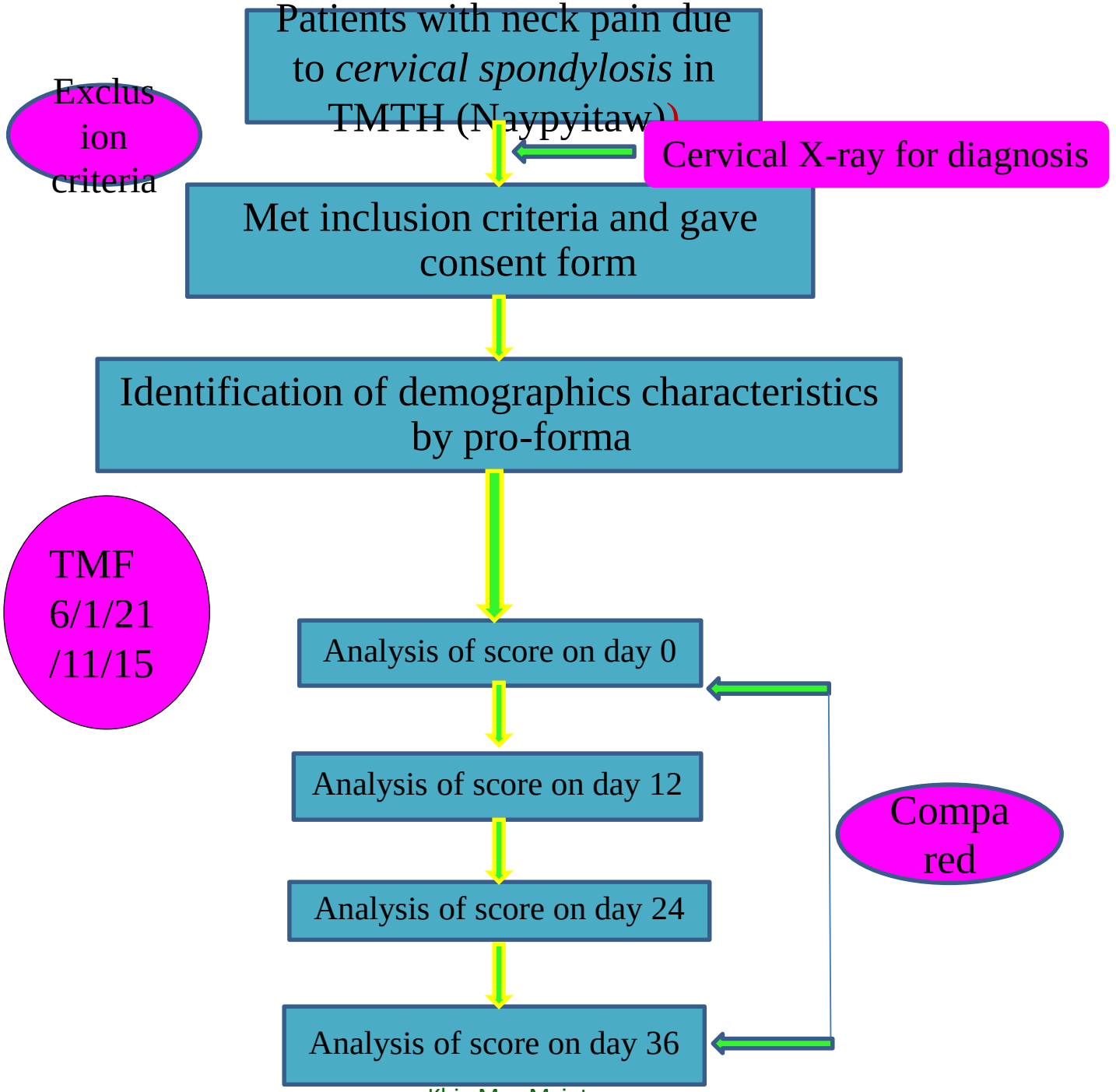
The *Greeva Vasti* procedure includes

(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 36 days. The treatment was given for three consecutive days, and rest on every 4th day.
- The outcome data were collected and observed before treatment (on day 0) and on 12th day, 24th day and on 36th day of the treatment in this study.

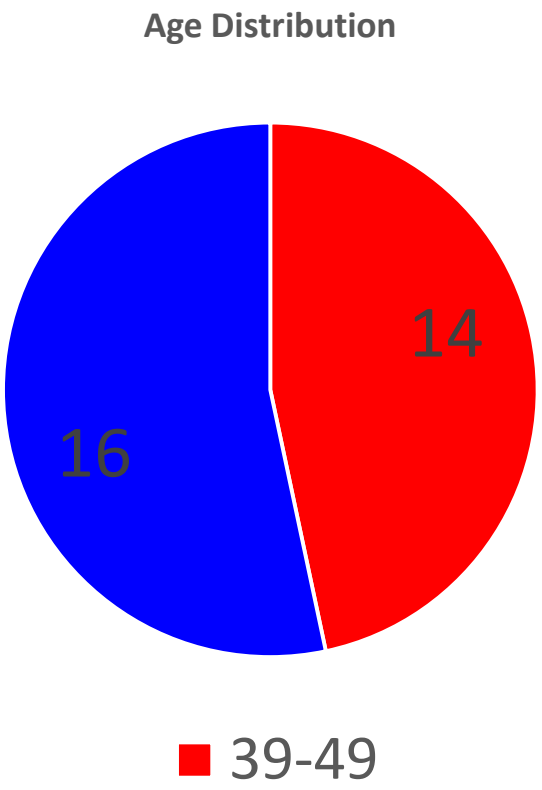

Patients with neck pain due to *cervical spondylosis* in TMTH (Naypyitaw))
Exclusion criteria
Cervical X-ray for diagnosis
Met inclusion criteria and gave consent form
Identification of demographics characteristics by pro-forma
TMF 6/1/21 /11/15
Analysis of score on day 0
Analysis of score on day 12
Analysis of score on day 24
Analysis of score on day 36
Compared

Data Collection and Data Analysis

- The effectiveness was analyzed by Chisqure test by using SPSS software (version 21)
- A significant level of *p* value was < 0.01

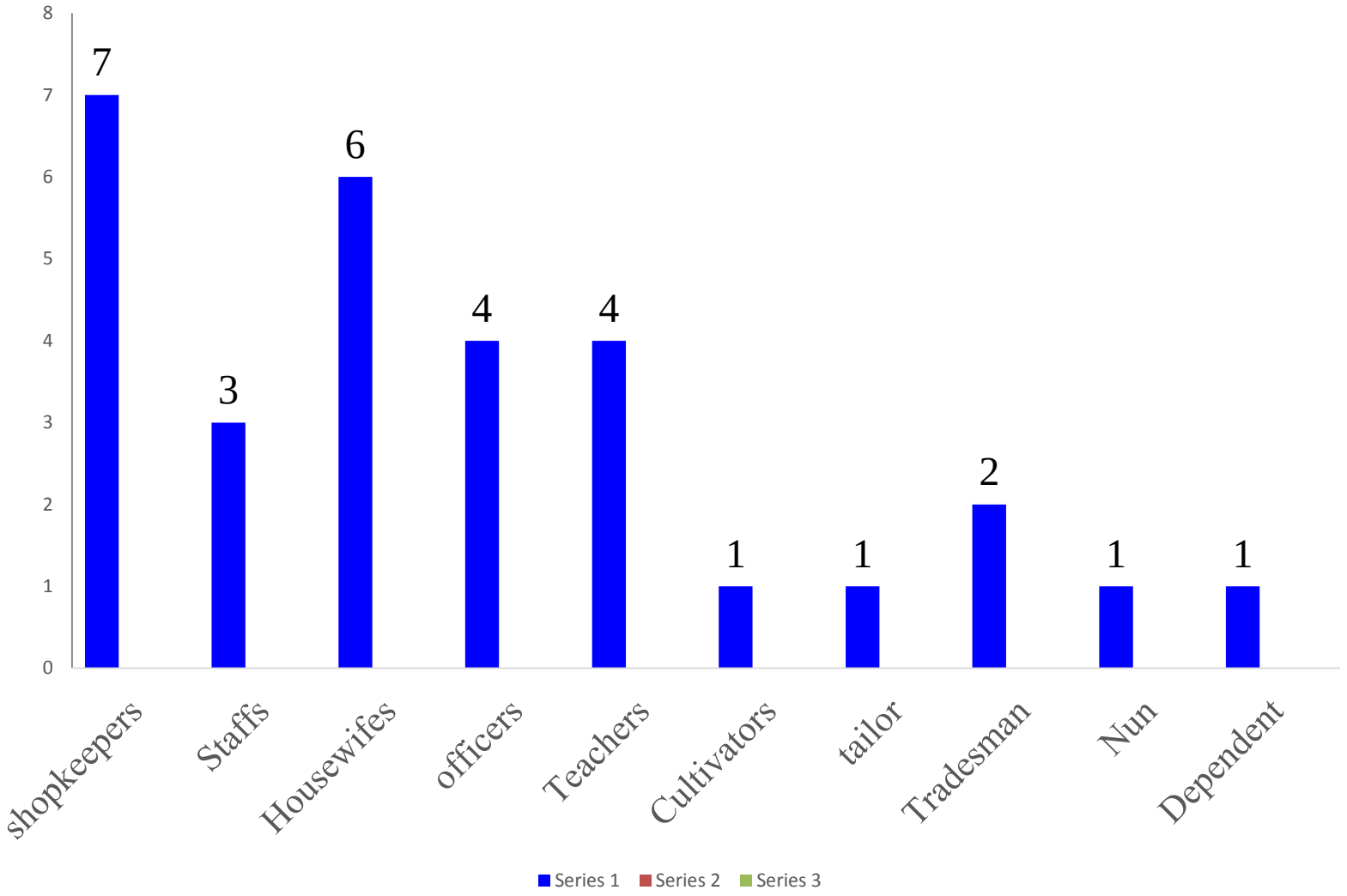
Findings

Age Distribution of Patients



Gender	Frequency	Percent
Male	5	16.6 %
Female	25	83.4 %
Total	30	100 %
Duration		
Subacute	6	20 %
Chronic	24	80 %
Total	30	100 %

Occupational Distribution of Patients



Comparisons of X-ray report before and after treatment

		Frequency	Percent
X-ray before	Mild	17	56.7
	Moderate	10	33.3
	Severe	3	10.0
X-ray after	Normal	2	6.7
	Mild	15	50.0
	Moderate	10	33.3
	Severe	3	10.0

Comparisons of pain score on Day 0, Day 12, Day 24 and Day 36

Pain		Follow up Days			
		Day0	Day12	Day24	Day36
no pain	Count	22	27	29	**30**
	% within days	73.3%	90.0%	96.7%	100.0%
mild	Count	3	3	0	0
	% within days	10.0%	10.0%	0.0%	0.0%
moderate	Count	1	0	1	0
	% within days	3.3%	0.0%	3.3%	0.0%
severe	Count	4	0	0	0
	% within days	13.3%	0.0%	0.0%	0.0%

Comparisons of stiffness score on Day 0, Day 12, Day 24 and Day 36

Stiffness		Follow up Days			
		Day0	Day12	day24	Day36
nil	Count	13	21	26	27
	% within days	43.3%	70.0%	86.7%	90.0%
mild	Count	9	5	1	0
	% within days	30.0%	16.7%	3.3%	0.0%
moderate	Count	7	3	3	2
	% within days	23.3%	10.0%	10.0%	6.7%
severe	Count	1	1	0	1
	% within days	3.3%	3.3%	0.0%	3.3%

Comparisons of radiate pain score on Day 0, Day 12, Day 24 and Day 36

Radiate pain		Follow up Days			
		Day0	Day12	Day24	Day36
absent	Count	2	14	20	25
	% within days	6.7%	46.7%	66.7%	83.3%
present	Count	28	16	10	5
	% within days	93.3%	53.3%	33.3%	16.7%

Comparisons of numbness score on Day 0, Day 12, Day 24 and Day 36

Numbness		Follow up Days			
		Day0	Day12	Day24	Day36
absent	Count	8	19	23	27
	% within days	26.7%	63.3%	76.7%	90.0%
present	Count	22	11	7	3
	% within days	73.3%	36.7%	23.3%	10.0%

Comparisons of dizziness score on Day 0, Day 12, Day 24 and Day 36

Dizziness		Follow up Days			
		Day0	Day12	Day24	Day36
nil	Count	15	26	27	29
	% within days	50.0%	86.7%	90.0%	96.7%
mild	Count	11	4	3	0
	% within days	36.7%	13.3%	10.0%	0.0%
moderate	Count	3	0	0	1
	% within days	10.0%	0.0%	0.0%	3.3%
severe	Count	1	0	0	0
	% within days	3.3%	0.0%	0.0%	0.0%

Comparisons of headache score on Day 0, Day 12, Day 24 and Day 36

Headache		Follow up Days			
		Day0	Day12	Day24	Day36
nil	Count	12	20	25	27
	% within days	40.0%	66.7%	83.3%	90.0%
mild	Count	15	10	4	2
	% within days	50.0%	33.3%	13.3%	6.7%
moderate	Count	3	0	1	0
	% within days	10.0%	0.0%	3.3%	0.0%
severe	Count	0	0	0	1
	% within days	0.0%	0.0%	0.0%	3.3%

Comparisons of tenderness score on Day 0, Day 12, Day 24 and Day 36

Tenderness		Follow up Days			
		Day0	Day12	Day24	Day36
nil	Count	4	6	18	22
	% within days	13.3%	20.0%	60.0%	73.3%
mild	Count	6	12	7	4
	% within days	20.0%	40.0%	23.3%	13.3%
moderate	Count	16	12	5	3
	% within days	53.3%	40.0%	16.7%	10.0%
severe	Count	4	0	0	1
	% within days	13.3%	0.0%	0.0%	3.3%

Comparisons of flexion score on Day 0, Day 12, Day 24 and Day 36

Flexion		Day 0	Day 12	Day 24	Day 36
>65	Count	4	8	13	19
	% within days	13.3%	26.7%	43.3%	63.3%
52-64	Count	6	10	9	7
	% within days	20.0%	33.3%	30.0%	23.3%
39-51	Count	8	7	6	2
	% within days	26.7%	23.3%	20.0%	6.7%
26-38	Count	7	2	1	2
	% within days	23.3%	6.7%	3.3%	6.7%
<26	Count	5	3	1	0
	% within days	16.7%	10.0%	3.3%	0.0%

Comparisons of extension score on Day 0, Day 12, Day 24 and Day 36

Extension		Follow up Days			
		Day0	Day12	Day24	Day36
65	Count	1	3	10	23
	% within days	3.3%	10.0%	33.3%	76.7%
52-64	Count	2	11	10	1
	% within days	6.7%	36.7%	33.3%	3.3%
39-51	Count	17	9	6	5
	% within days	56.7%	30.0%	20.0%	16.7%
26-38	Count	7	6	2	1
	% within days	23.3%	20.0%	6.7%	3.3%
<26	Count	3	1	2	0
	% within days	10.0%	3.3%	6.7%	0.0%

Comparisons of left rotation score on Day 0, Day 12, Day 24 and Day 36

Left rotation		Follow up Days			
		Day0	Day12	Day24	Day36
80	Count	0	1	7	13
	% within days	0.0%	3.3%	23.3%	43.3%
60-79	Count	12	17	14	13
	% within days	40.0%	56.7%	46.7%	43.3%
40-59	Count	12	10	8	4
	% within days	40.0%	33.3%	26.7%	13.3%
20-39	Count	6	1	1	0
	% within days	20.0%	3.3%	3.3%	0.0%
<20	Count	0	1	0	0
	% within days	0.0%	3.3%	0.0%	0.0%

Comparisons of right rotation score on Day 0, Day 12, Day 24 and Day 36

Right rotation		Follow up Days			
		Day0	Day12	day24	Day36
80	Count	2	3	4	13
	% within days	6.7%	10.0%	13.3%	43.3%
60-79	Count	12	17	20	14
	% within days	40.0%	56.7%	66.7%	46.7%
40-59	Count	14	10	6	3
	% within days	46.7%	33.3%	20.0%	10.0%
20-39	Count	2	0	0	0
	% within days	6.7%	0.0%	0.0%	0.0%

Comparisons of left bending score on Day 0, Day 12, Day 24 and Day 36

Cervical movement left bending		Follow up Days			
		Day0	Day12	Day24	Day36
45	Count	9	16	20	26
	% within days	30.0%	53.3%	66.7%	86.7%
30-44	Count	8	12	8	3
	% within days	26.7%	40.0%	26.7%	10.0%
15-29	Count	13	2	2	1
	% within days	43.3%	6.7%	6.7%	3.3%

Comparisons of right bending score on Day 0, Day 12, Day 24 and Day 36

Right bending		Follow up Days			
		Day0	Day12	Day24	Day36
45	Count	7	16	18	24
	% within days	23.3%	53.3%	60.0%	80.0%
30-44	Count	14	12	9	5
	% within days	46.7%	40.0%	30.0%	16.7%
29-15	Count	7	2	3	1
	% within days	23.3%	6.7%	10.0%	3.3%
<15	Count	2	0	0	0
	% within days	6.7%	0.0%	0.0%	0.0%

Discussion

- According to X ray results, most patients were narrowing disc spaces in C5-C6 and C6- C7.
- Among 30 patients, 2 patients were changed mild cervical spondylosis to normal and three patients changed mild improvement in moderate cervical spondylosis according to X ray result.
- In this study, 3 severe cervical spondylosis patients were included. Among them, one patient was changed mild improvement in x ray result.

- Among the signs and symptoms of Cervical spondylosis, pain was remission distinctly after the treatment for 15 days.

- In this study, severe patients were not relieved statistically for x ray result but signs and symptoms were improved clinically.

NAY PYI TAW ORTHOPAEDIC HOSPITAL

REPORT FOR X-RAY

Name	[illegible]	M/Age (F)	54yrs	Hospital Number	
Ward	ဝ.ဂ.၁၀	Reg ; No	OPD	Incharge	
X-ray No.	X-0185	Date :	23.1.18		

Examination performed: C-spine (AP, Lat;)

Report by Radiologist

- limited cervical curvature (+).
- Marginal sclerosis and osteophytes (+).
- Disc space narrowing is seen between C_{4-5}, C_{5-6} & C_{6-7}, more on C_{5-6}.

Imp: Severe cervical spondylosis.

Dr. Mi Mi Soe
Consultant Radiologist
Nay Pyi Taw Orthopaedic Hospital

NAY PYI TAW ORTHOPAEDIC HOSPITAL

REPORT FOR X-RAY

Name	[illegible]	M/Age (F)	55yrs	Hospital Number	
Ward	ဝ.ဂ.၁၀	Reg ; No	OPD	Incharge	
X-ray No.	D-0738	Date :	13/3/18		

Examination performed: C-spine (AP, Lat)

Report by Radiologist

- limited curvature, marginal osteophytes and disc space narrowing still (+), but radiological (mild) improvement is seen compared with (23.1.18) film.

Dr. Mi Mi Soe
Consultant Radiologist
Nay Pyi Taw Orthopaedic Hospital

Conclusions and Suggestions

- Based on the result of this clinical study, it can be concluded that this treatment procedure was useful as a treatment in treating signs and symptoms of neck pain due to cervical spondylosis without any side-effect.
- 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.

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Thank you For your attention