

## Original Research Article

# Effects of yogasanas on cervical spondylosis

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	International Archives of Integrated Medicine, Vol. 2, Issue 7, July, 2015.	
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	Available online at <a href="http://iaimjournal.com/">http://iaimjournal.com/</a>	
	ISSN: 2394-0026 (P)	ISSN: 2394-0034 (O)
	Received on: 09-06-2015	Accepted on: 18-06-2015
	Source of support: Nil	Conflict of interest: None declared.

## Abstract

**Background:** Studies have shown that conventional treatment for common neck pain may be inadequate. Yoga techniques also have been found to be better and beneficial complimentary therapy in cervical spondylosis and also reduce the stress levels.

**Objective:** The aim of the study was to examine the effects of yogasanas on cervical spondylosis.

**Materials and Methods:** In this randomized controlled study, 100 patients were selected as subjects, among them 50 participants in the case group were asked to attend 30 minutes yoga class every day with medications for a period of 3 months. The control group 50 subjects did not receive any yoga intervention only medications and were asked to complete questionnaires. Each group was evaluated Visual analog scale (VAS) was used to measure the pain severity for both the groups.

**Results:** The present interventional study showed that 50 cases with mean±SD as 37.52±11.666 were selected as cases those underwent yoga session with medicines. 50 controls with mean±SD as 41.84±11.129 were selected as control group underwent only medication. During the first visit, case group results showed mean VAS score 3.46 versus 3.86 with p-value 0.56. During second visit, case group results showed mean VAS score 1.82 versus 3.06 with p value 0.000. Whereas at final visit, VAS score of cases recorded 0.38 versus control 2.12 with p value less than 0.000. The cases who done yoga shown a very high significant change of VAS score completing the last visit i.e. at third visit.

**Conclusion:** The results of this study showed that yoga and relaxation techniques are a better and beneficial therapy in the treatment of pain and stiffness of the neck region. These techniques may be used as supportive along with conventional medications.

## Key words

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Yogasanas, Pain and stiffness of the neck, Cervical spondylosis.

## Introduction

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Cervical Spondylosis is a degenerative condition involving the vertebrae and discs of the neck. It occurs in both males and females usually after the age of 40 years and result from one area frequently associated with chronic pain and stiffness in the neck due to disc aging and degenerative changes in the cervical spine [1, 2]. Cervical spondylosis may be caused by faulty sleeping habits, sudden jerks to neck, severe stress and anxiety, and related to occupational hazards as in computer professionals or call center workers, additional load on the neck are some of the etiological factors [3].

Common neck pain (CNP) which is not due to any organic lesion accounts for more than 80% of neck pains [4]. Depression and anxiety are well-known undesirable side effects of chronic neck pain [5]. In order for the spine to function mechanically, it affects and is affected by skeletal alignment, flexibility, and strength of various parts of the body. The edges of the vertebrae often develop small, rough areas of bone called osteophytes. Over many years, the disc becomes thinner. This degeneration is a normal aging process likened to having 'wrinkles in the spine [6].

In many people, the degeneration does not cause any symptoms. Most patients with cervical spondylosis are asymptomatic. Symptoms may develop acutely or insidiously and manifest by the fifth and sixth decade of life [7]. Upon examination, the patient may have difficulty rotating the head and moving it toward the shoulder [8]. Headache usually occipital, constant, and no throbbing, may be less common and arise as a secondary phenomenon due to muscle spasm in the neck [9]. Yoga offers us a

path of light and hope to lead us from the state of degeneration towards one of integration, health and harmony by harnessing our inherent healing potential to the fullest.

Yoga therapy is a multifunctional exercise modality with numerous benefits [10]. Since the underlying pathology of neck disorders remains unclear, the treatments are aimed at relief of pain and stiffness [11]. Yoga has also been found to be an effective tool in reducing the stress levels. Yoga relaxation techniques is one of the important role in the treatment of cervical spondylosis, that can be practiced in supine or sitting posture for achieving the goal of positive health, will power, concentration, and relieving pain and stiffness of the neck [12, 13].

The present study was planned to assess the effects of yogasanas on cervical spondylosis.

## Material and methods

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This randomized study with 100 subjects was conducted at Narayana medical college and hospital, Narayana Yoga and Naturopathy Medical College and Hospital, Nellore, Andhra Pradesh, India. The study protocol was approved by the Institutional Ethical Committee. Informed consent was obtained from study participants. The subjects were familiar with the aims and objectives of the study. The study was conducted for 3 months (90 days) of periods.

## Yoga intervention

The following yoga poses were done by the study groups are practicing 30 minutes daily. 100 subjects were randomized 50 cases and 50 controls. Cases were taught Yoga session neck exercises and shoulder stretching 6 minutes, Tadasana 2 minutes, Parvatasana 2 minutes,

Ardha Matsyendrasana 2 minutes, Bhujangasana 2 minutes, Shalabhasana 2 minutes, Pawanamuktasana 2 minutes, Naukasana 2 minutes, surya namaskar 5 minutes, 5 minutes of relaxative asana is followed between intervals of asanas, for about 30 minutes daily for a period of 3 months.

### Study protocol

The 100 cervical spondylosis patients were selected as subjects. Among them 50 participants in the case group were asked to attend 30 minutes yoga class every day with Anti-inflammatory and Analgesics for a period of 3 months. All classes were free of charge to the participants. The control group 50 subjects did not receive any yoga intervention only medications and were asked to complete questionnaires. Each group was evaluated after 3 months. Visual analog scale (VAS) was administered on both the groups at the end of 3 months.

### Assessment

The collected data was statistically analyzed by the student's t test.

### Results

The present interventional study showed that 50 cases with means's±SD of 37.52±11.666 were selected as cases those underwent yoga session with medicines. 50 controls with mean±SD of 41.84±11.129 were selected as control group underwent only medication. During the first visit, case group result shows mean VAS score 3.46 versus 3.86 with p-value 0.56. During second visit, case group result shows mean VAS score 1.82 versus 3.06 with p value 0.000. Whereas at final visit, VAS score of cases recorded 0.38 versus control 2.12 with p value less than 0.000. The cases who done yoga showed a very high significant change of VAS score completing the last visit i.e. at third visit (**Table - 1, Figure - 1**). This current study proved that practice of regular yoga in the given manner that is neck exercises and shoulder stretching 6 minutes, Tadasana 2 minutes, Parvatasana 2 minutes, Ardha Matsyendrasana 2 minutes, Bhujangasana 2 minutes, Shalabhasana 2 minutes, Pawanamuktasana 2 minutes, Naukasana 2 minutes, surya namaskar 5 minutes, 5 minutes of relaxative asana was followed between intervals of asana, for about 30 minutes daily for a period of 3 months.

**Table - 1:** Comparison of mean values of cases and controls for visit 1, visit 2 and visit 3.

Paining Scale Visit	Cases	Controls	t-value	p-value
	Mean ± S.D.	Mean ± S.D.		
1	3.46 ± 1.01	3.86 ± 1.05	-1.937	0.056
2	1.82 ± 0.80	3.06 ± 1.27	-5.847	< 0.0001*
3	0.38 ± 0.64	2.12 ± 1.37	-8.172	< 0.0001*

\* p < 0.0001 – Very High Significant.

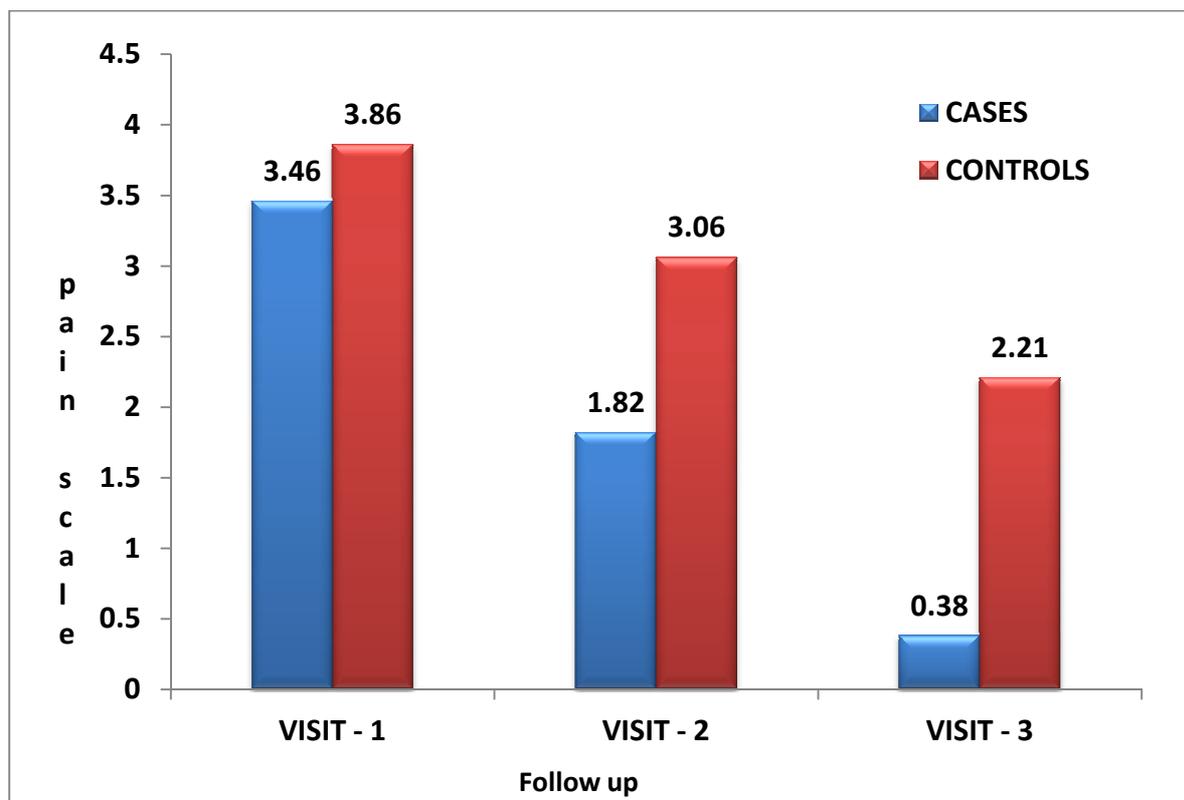
### Discussion

The results suggest that there was a very high significant improvement in case group. Cervical spondylosis is a general term for age related wear and tear affecting joints in the neck region. In this condition usually appears in men and women older than 40 and progresses the age. The

development of this condition is more likely when other factors are present, including obesity and sedentary lifestyle, occupation requiring heavy lifting and frequent bending and twisting, previous neck injury, severe arthritis, osteoporotic fractures, and genetic factors. The severity of signs and symptoms directs approach for cervical spondylosis with the following goals like relieving pain and stiffness of the neck

region.

**Figure - 1:** Mean values of cases and controls for each visit.



As quoted in one study, tension that is associated with stress is stored mainly in the neck muscle, diaphragm and the nervous system. It has also been suggested that the presence of depressive symptoms predicts future musculoskeletal disorders. Stress can cause spasms by interfering with co-ordination of different muscle groups involved in the functioning of the neck. If these areas are relaxed, stress gets reduced. We need to take consideration, the gender, the physical condition as well as the condition of the disorder when we are applying yogasana therapy. A step-by step approach involving aspects of diet, involving aspects of lifestyle modification, involving aspects of the way we think, and also involving yogic counseling.

Yoga is fast advancing as an effective therapeutic tool in physical, psychological and psychosomatic disorders. Stress, anxiety, depression, tension, lack of concentration, mood changes during pain, emotions are the psychological risk factors in neck pain indicated

a clear link between psychological variables with neck pain. In a study by Vempati, et al. on healthy adults, the yoga -based guided relaxation was shown to reduce the sympathetic activity as measured by autonomic parameters, oxygen consumption and breathe volume [13]. The subjects who practiced yogasanas they felt that they have experienced and learnt a skill in the form of yogasanas, pranayamas, loosening exercises. They felt very happy and self confident, fully satisfied with the treatments.

### Conclusion

The results of this study showed that yoga and relaxation techniques are a better and beneficial therapy in the treatment of pain and stiffness of the neck region. These techniques may be used as supportive along with conventional medications.

### References

1. Stewart WF, Ricci JA, Chee E, et al. Lost productive time and cost due to

- common pain conditions in the U.S. workforce. *JAMA*, 2003; 290: 2443-2454.
2. Turk DC, Okifuji A, Kalauolalani D. Clinical outcome and economic evaluation of multidisciplinary pain centers. In: Block AR, Kremer EF, and Fernandez E, eds. *Handbook of Pain Syndromes: Biopsychosocial Perspectives*. Mahwah, NJ: Erlbaum; 1999, p. 77-98.
  3. Ebenezer J. *You and Your Neck Pain*. Bangalore: Karnataka Orthopedic Academy (R); 2007, p. 25–34.
  4. Ebenezer J. *Textbook of Orthopedics*. 3<sup>rd</sup> edition. New Delhi: Jaypee Brothers Publications; 2006, p. 341–3.
  5. Leino P, Magni G. Depressive and distress symptoms as predictors of low back pain, neck-shoulder pain, and other musculoskeletal morbidity: A 10-year follow-up of metal industry employees. *Pain*, 1993; 53: 89–94.
  6. Schatz MP. *Back Care Basics: A Doctor's Gentle Yoga Program for Back and Neck Pain Relief*. Berkeley, California: Rodmell Press; 1992, p. 9-20.
  7. Cervicalspondylosis.Mayoclinic.com.Up dated June12, 2012. [www.mayoclinic.com/health/cervical-spondylosis/DS00697](http://www.mayoclinic.com/health/cervical-spondylosis/DS00697). Accessed on February 19, 2013.
  8. Cervical spondylosis. Pub Med Health. U.S. National Library of Medicine, National Institutes of Health. Updated June 4, 2011. [www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001472/](http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001472/). Accessed February 19, 2013.
  9. Ianse R, Heywood J, Kernighan J, Balla JI. Cervical spondylosis and headaches. *Clin Exp Neurol.*, 1987; 23:175-178.
  10. Iyengar BK. *Yoga-The Path to Holistic Health*. London, England: Dorling Kindersley; 2001, p. 25.
  11. Ramani PS. *Textbook of Cervical spondylosis*. 1<sup>st</sup> edition. New Delhi: Jaypee Brothers Publications; 2005.
  12. Michaels RR, Huber MJ, McCann DS. Evaluation of transcendental meditation as a method of reducing stress. *Science*, 1976; 192: 1242–4.
  13. Vempati RP, Telles S. Yoga-based guided relaxation reduces sympathetic activity judged from baseline levels. *Psycho Rep.*, 2002; 90: 487–94.