

# Prevalance of Upper Quadrant Dysfunction in Subjects with Chronic Neck Pain

Dr. Parveen Pathan<sup>1</sup>, Dr Subrat Samal<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Physiotherapy, Shri. K. R. Pandav College of Physiotherapy, Bhilewada, Bhandara

<sup>2</sup>Associate Professor, Department of Physiotherapy, Datta Meghe Institute of Medical Sciences (Deemed University), Sawangi (Meghe), Wardha – 442001 (M.S.)

**Abstract:** Non specific neck pain is a common occurrence in general population and the incidence appears to more increasing day by day. It is most common in female population because of lower strength in their neck Muscles when compared to male population<sup>1</sup>. **Objective:** To find out the prevalence of upper quadrant dysfunction in subjects with chronic non specific neck pain. **Method:** 40 subjects diagnosed with non specific neck pain were included in the study. Functional status of patient was evaluated using upper extremity functional index scale. The data was collected by questionnaire form and was analyzed using SPSS 14.0 and graph pad 6.7 version. **Result:** The mean and standard deviation of SAMP score for right hand was  $12.5 \pm 4.21$  and for left hand it was  $9.45 \pm 2.31$ . **Conclusion:** From the present study it is concluded that high prevalence of upper quadrant dysfunction in non specific neck pain in women

**Keywords:** Upper quadrant dysfunction, neck pain, prevalence

## 1. Introduction

Non-Specific neck pain nowadays are becoming the major barrier for performing the day to day activities normally. Among both the genders the female population is mostly affected because it has been observed that females have lower strength in their neck muscles as compared to male population<sup>1</sup>.

It is important to understand the relationship between neck pain and upper quadrant dysfunction the reason behind this myth is due to mechanical loading on the articular structures the muscles undergo in a protective response. This response has been termed as "Spasm"<sup>2,3</sup>. Static positioning or faulty posture during activity could lead to reconditioning of upper limb resulting reducing the strength and endurance of the muscles.

It is also believed that upper limb is mechanically attached to the neck through brachial plexus which extends from the neck into the upper limb<sup>4</sup>. Neurogenic neck pain may result in stimulation of more mechanical sensitive receptors in the connective tissue situated in the cervical nerve roots<sup>5</sup>.

## 2. Aims & Objective

To find out prevalence of upper quadrant dysfunction in subjects with chronic non specific neck pain.

## 3. Material and Methodology

**Study Design:** Experimental design.

**Study Setting:** Kiran Pandav College of Physiotherapy, Nagpur.

**Sample Size:** 40 subjects

**Study Technique:** Simple Random Sampling

**Material Used:** Weight Cuff, Stop Watch

### Inclusion Criteria

- Mechanical non specific Neck pain
- Chronic pain lasting from past 6 months
- Women age 30-55 years

### Exclusion criteria

- Traumatic neck pain
- Any old or recent trauma to the shoulder, elbow and hand
- Acute neck pain
- Any surgeries around neck

### Procedure

40 subjects of with non specific neck pain age ranging from 30 to 55 years fulfilling the inclusion criteria were included in the study. Purpose of the study was explained and written consent were obtained from the subjects who were willing to participate in the study. Following a formal introduction a brief demographic data of the subjects who were included in the study was noted.

The procedure of single arm military press test was explained and demonstrated. This test required the subjects to complete as many repetitions of the single arm military press test as possible within 30 seconds using a 3kg weight with both the upper limbs separately. All subjects were instructed to do the test as fast as possible but could stop and start at anytime during the 30 seconds while timing continues. The subjects if completes less than 24 repetitions or less were considered to have upper arm dysfunction and the subjects who were able to perform more than 25 repetitions were considered having no upper arm dysfunction.

### Data Analysis and Graphical Representation

Age (Years)	Mean $\pm$ SD
30-55	38.23 $\pm$ 5.10Years

Single Arm Military Press Test

	Mean	Std.Error	P-Value(t-test)
Score Right	Total(n=40) 12.5	4.21	≤0.001 Significant
Score Left	Total(n=40) 9.45	2.31	≤0.001 Significant

shoulder (CANS) in the open population. Clin J Pain 2008;24:253–9 [PubMed]

#### 4. Result

The mean and standard deviation of SAMP score for right hand was  $12.5 \pm 4.21$  and for left hand it was  $9.45 \pm 2.31$

#### 5. Discussion

In the present study 40 female subjects were included with non specific neck pain. These subjects were assessed for their upper quadrant dysfunction using single arm military press test as an outcome measure. Those subjects who were able to perform repetitive action of single arm military press test less than or equal to 24 were considered to have upper arm dysfunction and those who performed the repetitive movements more than 25 were considered normal subjects i.e subjects who do not have upper quadrant dysfunction. The result suggested that middle aged female with chronic non specific neck pain having upper quadrant dysfunction were 56.55% and without upper quadrant dysfunction were 22.14%. The study shows that, the subjects having chronic non specific neck pain are more prone to develop upper quadrant dysfunction.

#### 6. Conclusion

The study concludes that there is high prevalence of upper quadrant dysfunction associated with chronic non specific neck pain in females.

#### References

- [1] Hakala P, Rimpela A, Salminen JJ, Virtanen SM, neck and shoulder pain in finish adolescents: National sectional surveys BMJ. 2002;325:743
- [2] Rekola K. Health service utilization for musculoskeletal disorders in finnish primary health care. Acta University 1993;D259:53-59
- [3] Huisstede BM, Bierma-Zeinstra SM, Koes BW, Verhaar JA. Incidence and prevalence of upper-extremity musculoskeletal disorders. A systematic appraisal of the literature. BMC Musculoskelet Disord 2006;7:7. [PMC free article] [PubMed]
- [4] Walker-Bone KE, Palmer KT, Reading I, Cooper C. Soft-tissue rheumatic disorders of the neck and upper limb: prevalence and risk factors. Semin Arthritis Rheum 2003;33:185–203 [PubMed]
- [5] Palmer KT, Cooper C. Work-related disorders of the upper limb. Arthritis Res Campaign: Top Rev 2006;10:1–7
- [6] Manchikanti L, Singh V, Datta S, Cohen SP, Hirsch JA. Comprehensive review of epidemiology, scope, and impact of spinal pain. Pain Physician 2009;12:E35–70 [PubMed]
- [7] Huisstede BM, Wijnhoven HA, Bierma-Zeinstra SM, Koes BW, Verhaar JA, Picavet S. Prevalence and characteristics of complaints of the arm, neck, and/or