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# ASSOCIATION OF NECK RANGE OF MOTION AND CERVICOGENIC HEADACHE IN IT PROFFESIONALS.

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***Abstract:*** This study was designed to asses cervical ROM in those who are diagnosed with CGH using diagnostic criteria by IHS and positive flexion-rotation test in IT professionals.This was analytical study that included 30 samples working in IT for more than a year. The participants were assessed for CGH using diagnostic criteria by questionnaire. The cervical ROM and cervical flexion rotation test (CFRT) was assessed using goniometer. This concluded that, the participants who found positive for CGH showed decreased cervical ROM.

***Index terms:*** **Cervicogenic headache, IT professionals, Cervical ROM, CFRT.**

## INTRODUCTION

Cervicogenic headaches (CGH) are chronic or recurring in nature which are found to arise from musculoskeletal dysfunction of the cervical spine (neck). It is a chronic headache of referred pain that arises from atlanto-occipital and upper cervical joints and is perceived in different regions of head, shoulder and or face. The first a part of “cervicogenic” refers to the cervical spine, comprising seven bones more commonly referred to as the neck; “genic” means the headache is generated during this area, particularly the upper three bones. In other words, what feels like a dull, achy pain in the head really has its roots in the neck. The lifetime prevalence of headaches in adults could also be as high as 20 to 30 percent. Women's are more likely to be affected than men.Patients with cervicogenic headache demonstrated declines within the quality of life [3]. Patients with CGH have a substantial quality of life burden, comparable to patients with migraine and tension-type headache [4].

A “cervicogenic episode” can last one hour to one week. Pain typically is on one side of the head, often correlating with the side of the neck where there is increased tightness. Cervicogenic headache is a referred type of pain it is based on "CONVERGENCE THEORY".

Pain typically is on one side of the head, often correlating with the side of the neck where there is increased tightness [4]. Almost certainly, range of motion will be compromised. Common causes of CGH can be chronic: poor posture, as noted above, or arthritis. They also can be traumatic: the result of sudden, forceful movement of the skull and neck as with whiplash caused by a car accident, a fall, or an athletic collision. Headaches that develop three or more months after a concussion, consistent with one study, generally aren't caused by brain or head injury. This suggests a connection to the cervical spine [6].

According to International Headache Society (IHS) cervicogenic headache is validated as secondary type headache and described various factors to differentiate CGHs, that includes:

1. Unilateral or Bilateral headaches with one side predominant.
2. Pain in neck or suboccipital region that spreads to head.
3. Pain of Fluctuating intensity is experienced.
4. Pain of altered sensation in the face or TMJ joint.
5. Pain Aggravates by neck movements and postural stresses.
6. Tenderness at upper 3 cervical joints.
7. Impaired Muscle Performance.
8. Restricted ROM in neck.
9. Mild dizziness can be experienced in some patients.
10. Increased Tightness of upper trapezius, levator scapulae, pectoralis major and minor, suboccipital extensors.

Cervicogenic headaches can arise from dysfunction within the C2-3 and C3-4 intervertebral discs of facet joints, also because the atlantoaxial (C1-2) and Atlanta-occipital (C0-1) joints [8]. The diagnostic criteria for CGH include headache related to neck pain and stiffness. Cervicogenic headaches are unilateral, ranging from one side of the posterior head and neck, migrating to the front, and sometimes are related to ipsilateral arm discomfort [9].

## RESEARCH METHODOLGY

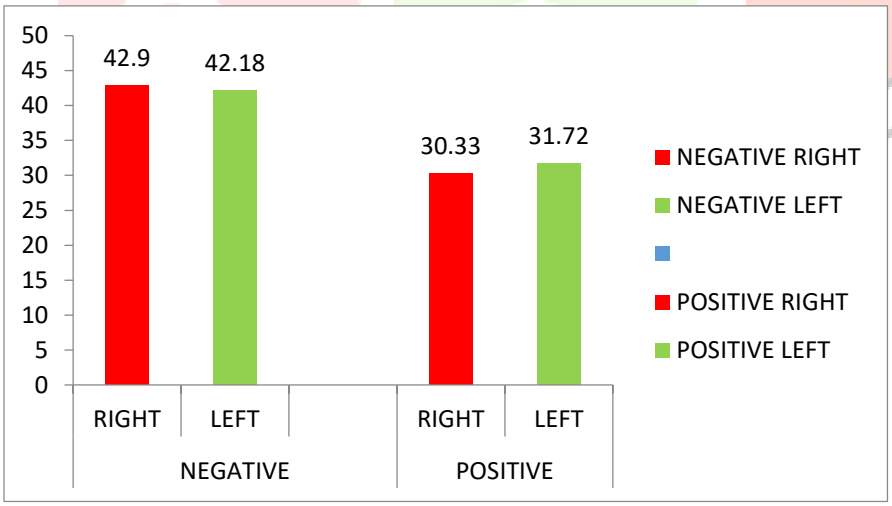
Permission was taken from institutional ethical committee of Tilak Maharashtra Vidyapeeth. A visit was arranged to different IT firms. Prior to start a study, the purpose and aim of the study was explained clearly to participants. All the participants were screened for inclusion and exclusion criteria. The method of study was explained to them and their informed consent was taken on the consent form. All the participants were asked to fill the diagnostic criteria sheet and NPRS scale. The physical assessment of cervical flexion rotation test on bed/plinth and cervical range of motion using goniometer was taken. Later on the obtained data was analyzed in statistical analyzing method.

## RESULT AND DISSCUSSION

### RESULT

1) CERVICAL FLEXION-ROTATION TEST. (Table 1)

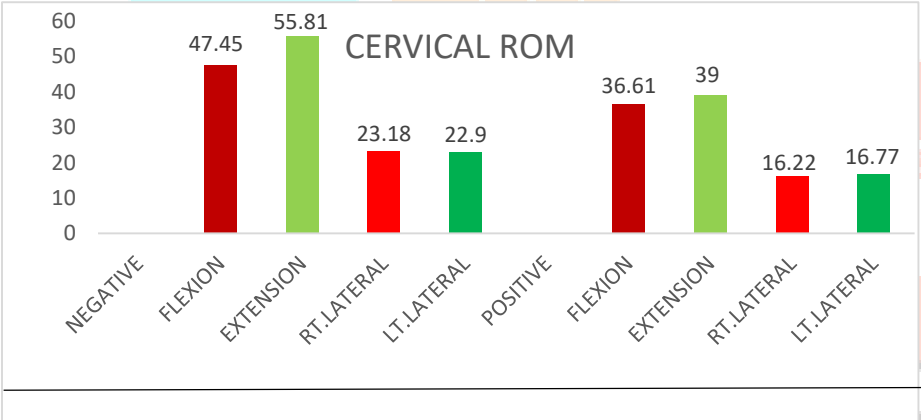
| | |
|---|---|
| NEGATIVE (GROUP-B) | |
| RIGHT | 42.9 |
| LEFT | 42.18 |
| | |
| POSITIVE (GROUP-A) | |
| RIGHT | 30.33 |
| LEFT | 31.72 |




**Interpretation:-** From the above statistical analysis, it clearly shows that CFRT was positive in the patients who fulfilled the diagnostic criteria of CGH by international headache society.

2) CERVICAL RANGE OF MOTION (Table 2)

| | |
|---|---|
| NEGATIVE (GROUP-B) | |
| FLEXION | 47.45 |
| EXTENSION | 55.81 |
| RT.LATERAL | 23.18 |
| LT.LATERAL | 22.9 |
| | |
| POSITIVE (GROUP-B) | |
| FLEXION | 36.61 |
| EXTENSION | 39 |
| RT.LATERAL | 16.22 |
| LT.LATERAL | 16.77 |




**Interpretation:-** From the above statistical analysis, it clearly shows significant decrease in ROM in the patients who have been diagnosed positive for CGH by diagnostic criteria and CFRT. Hence, there is decrease in ROM with positive CGH.

**DICUSSION**

Cervicogenic headache is a secondary and unilateral that is known by referring pain from soft or hard cervical structures to occipital, temporal, frontal and maybe pre-orbital regions [14]. It is estimated that 15-20% of all chronic headaches include CGH [21]. Reports state that, at a minimum about 7 million people travail from CGH that causes waste of many daily works and thus decrease their performance strongly [5].The best available studies show that the C2-C3 zygapophysial joints are the most common source of CGH, accounting for about 70% of cases [22]

In accordance with "Cervicogenic Headache International Study Group" an inventory including some clinical criteria as pain by cervical movement or inappropriate sustained positions, soft tissue stiffness, neck pain and limited cervical Range of Motion (ROM) has been mentioned for CGH. T Hall , K Robinson (2004) conducted a single blind, age and gender matched, comparative measurement study was designed to assess active range of cervical motion and passive range of rotation in cervical flexion in asymptomatic and cervicogenic headache subjects. Both procedures are commonly used in clinical practice to evaluate patients with cervicogenic headache. Headache severity was assessed by a questionnaire. Amongst patients over the age of 50, the incidence of secondary headache, the category in which CGH falls, has been found to be more common than the incidence of primary headache.

The study is aimed to find association of neck range of motion (ROM) and cervicogenic headache (CGH) in IT professionals. Total of 30 participants (IT professionals) were selected for the study who were having headache. Participants were selected according to inclusion and exclusion criteria. Later on, they were categorized into group-A and group-B using diagnostic criteria for CGH by international headache society, NPRS, cervical flexion-rotation-test and cervical ROM.

As shown in Table 1, the cervical flexion-rotation test was assessed in both types of patients i.e those who were found to be negative (group-B) according to diagnostic criteria of cervicogenic headache by international headache society and those who were found to be positive (group-A) by the same criteria. As per the assessment and statistical data analysis from 30 participants 18 were found positive and 12 were found negative using diagnostic

criteria and NPRS. From which it showed that patients with CGH show positive test for cervical flexion-rotation (CFRT).

As shown in Table 2, cervical range of motion (CROM) was assessed in both negative (group-B) and positive (group-A) patients and the mean was calculated according to which statistical analytical data was obtained and thus it showed that, CROM was significantly decreased in the patients who meet diagnostic criteria of CGH by international headache society and also the patients who showed positive result for CFRT.

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