

**Original Article****Range of motion in upper and lower Cervical spine in Dentists with chronic Neck pain of Lahore City.**Fatima Amin¹, Adnan Ikram^{1*}, Haris Farooq¹, Atta Muhammad¹, Muhammad Asim Arif¹, Hafiz and Muhammad Usman²¹ University institute of Physical Therapy, The University of Lahore, Lahore, Pakistan² Goshia e Shifa hospital, Lahore, Pakistan

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ABSTRACT

Neck pain is a commonly reported problem these days mostly due to increased screen timings and mobile usage, other than age factors. **Objective:** To check range of motion in upper and lower cervical spine in dentists with chronic neck pain. **Methods:** cross-sectional Study was conducted and non-probability convenient sampling technique was used to get sample size. Forty-three participants were taken in this study. Only dentists with chronic neck pain were included. Association between pain intensity and cervical range of motion was obtained. After taking consent information data was collected by using cervical range of motion device and neck disability index questioner. Data was analyzed using SPSS21. **Results:** There was association between pain intensity and cervical flexion (p-value=0.043), pain intensity and cervical bending left side (p-value=0.000) while there was no association between pain intensity and cervical extension (p-value=0.201), pain intensity and cervical bending Right side (p-value=0.721), pain intensity and cervical rotation right side (p-value=0.207), pain intensity and cervical rotation left side (p-value=0.178). **Conclusions:** Dentists with chronic neck pain have decreased cervical flexion, cervical left side bending due to bad standing posture and continuous flexed neck for longer duration during work.

INTRODUCTION

The incidence of upper extremity musculoskeletal disorders in dental professionals (dentist, dental hygienist, and dental assistant) is well documented, including regional neck and shoulder pain neuropathy. The most common problem in upper extremity disorders is neck pain. Neck pain is a commonly reported problem that marks 70% of characters at some time in their lives [1]. At any certain time, almost 10% to 20% of the population have neck problems [2]. Because most neck pain has no actual, evident cause, it is spotted as mechanical neck pain [3]. The main feature of mechanical neck pain is pain in the cervical area, which is casually conveyed by restriction of the range of motion and linked with functional limitations [4]. The weak muscles, the shape of the vertebral column, lifting techniques, stress has been recognized as factors that cause neck pain in general population [5]. However, little treatments are available but the pathogenesis of common neck pain is unclear. Chronic pain, defined as pain which last for more than 6 months [6]. In our society chronic neck pain is common. Assessments show that 67% of people will suffer neck pain at some stage

all over the life. Concluding studies have proposed that with chronic neck pain people have weak neck muscles and that neck-strengthening exercises can increase range of motion, decrease pain and muscle action [7]. Chronic neck pain is a main medical and social problem causing decrease ability to work and severe distress [8]. However, little treatments are available but the pathogenesis of common neck pain is unclear [9]. CROM instrument can be used as an indication of dysfunction of anatomical structures and is the active part of spine assessment and diagnostic benefit [10-12]. In clinical settings, a specialized device is used to perform assessments of cervical ROM [13,14]. By using CROM device we can measure 6 cervical movements. The CROM device, can be installed quickly requires minimal palpation to find landmarks and is easy to use. The CROM device contains a plastic frame placed on the head over the nose and the ears, secure by a Velcro strap. Moreover, when viewed against motion analysis systems, it is financially viable for clinics [15]. The neck disability index (NDI) is a questionnaire that is generally used to measure the

functional status of neck pain patient in clinical judgments [16]. The NDI was firstly established for measuring the functional status of patients with disabling neck pain [17]. The study was conducted to detect the range of motion in dentists with chronic neck pain. The incidence of neck pain and reduced cervical range of motion more in the dentists due to flexed neck posture during work. The aim of the study is to provide awareness in dentists that they must go to physiotherapy evaluation and treatment after a time spam of few months

METHODS

Dentists of different dental hospitals were approached in this study. All the dentists were healthy and were included in this study on the basis of inclusion exclusion criteria. Range of motion in upper and lower cervical spine with chronic neck pain dentists was checked by using NDI (neck disability index questioner and cervical range of motion device.

RESULTS

There was association between pain intensity and cervical flexion (p-value0.043). There was no association between pain intensity and cervical extension (p-value.201), pain intensity and cervical bending Right side (p-value.721), pain intensity and cervical bending lesft side (p-value.000), pain intensity and cervical rotation right side (p-value.207),pain intensity and cervical rotation left side (p-value.178)(Table 1-3; Figure 1,2).

Variables	Pearson Chi -Square value	p-value
Pain intensity and cervical flexion	8.141	.043
Pain intensity and cervical extension	4.628	.201
Pain intensity and cervical bending(Right side)	3.671	.721
Pain intensity and cervical bending(Left side)	24.501	.000
Pain intensity and cervical rotation(Right side)	4.563	.207
Pain intensity and cervical rotation(Left side)	8.930	.178

Table 1: Association of pain intensity with cervical movements

Cervical Flexion			Total
30-40 degree	45-60 degree		
No pain	6(27.3%)	16(72.7%)	
Mild pain	7(70.0%)	3(30.0%)	

Moderate pain	2(33.7%)	4(66.7%)	6(100.0%)
Severe pain	4(80.0%)	1(20.0%)	5(100.0%)
Total	19(44.2%)	24(55.8%)	43(100.0%)

Table 2: Comparison of pain intensity and cervical flexion

Cervical Bending (Right side)				Total
15-30 degree	30-45 degree	45-60 degree		
No pain	1(4.5%)	16(72.7%)	5(22.7%)	22(100.0%)
Mild pain	1(10.0%)	8(80.0%)	1(10.0%)	10(100.0%)
Moderate pain	0(0.0%)	5(83.3%)	1(16.7%)	6(100.0%)
Severe pain	1(20.0%)	4(80.0%)	0(0.0%)	5(100.0%)
Total	3(7.0%)	33(76.7%)	7(16.3%)	43(100.0%)

Table 3: Comparison of pain intensity and cervical bending (Right side)

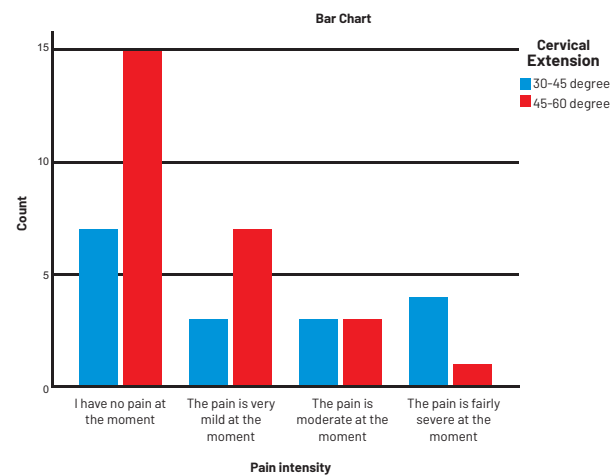


Figure 1: Association between pain intensity and cervical extension

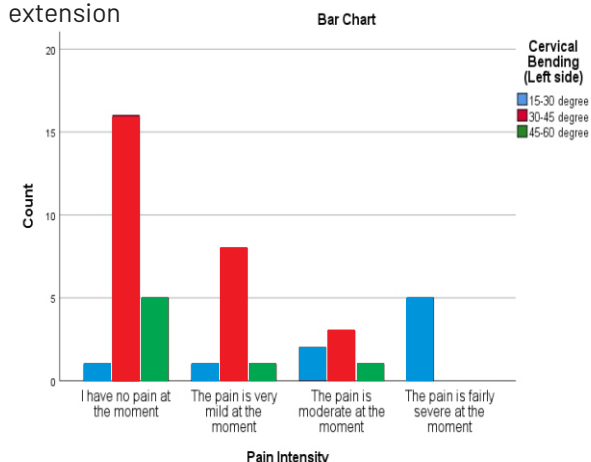


Figure 2: Association between pain intensity and cervical bending(Left side)

DISCUSSION

DISCUSSION COVID-19 has spread rapidly around the world, resulting in not only a massive loss of human life but also an economic catastrophe in both established and evolving nations. In severe illness, there is a greater rate of virus and death as compared to non-severe infection [10]. Severe illness prognosis may make hospitalization, anticipation and recovery more efficient. Complications should be avoided, and treatment should be started as soon as possible [11]. To measure the disease severity, simple, readily available, rapid, and cost-effective laboratory findings are required [12]. For this purpose D-dimer, WBCs, LDH, PLT, and Ferritin could act as an important biomarker in COVID-19 infection, to analyze disease severity and prognosis [13]. In current study the Mean \pm SD of WBCs, PLT, LDH, D-dimer, Ferritin among Group I and Group II as shown in table 2 were statistically significant between two groups with P-value 0.000, 0.004, 0.015, 0.000 and 0.027 respectively. The current study is in accordance with the study of Yumeng Yao et al. [13], (2020) who concluded that if the value of D-dimer exceeds 2.0ug/ml, it clearly shows mortality rate in COVID-19 patients. It proves that D-dimer is an effective early marker

CONCLUSIONS

Association between pain intensity and cervical flexion present in chronic neck pain dentists and also association between pain intensity and cervical left side bending present in chronic neck pain dentists due to flexed neck posture for long duration during working.

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