

Frequency of temporomandibular dysfunction, pain intensity and joint's level of disability among patients with cervical pain under physical therapy treatment in Lahore, Pakistan

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Objective: To determine the frequency of temporomandibular dysfunction, pain intensity and temporomandibular joint's (TMJ) level of disability among patients with cervical pain under physical therapy treatment at our institution.

Methodology: This cross sectional study was conducted on 42 patients presenting with cervical pain at University Institute of Physical Therapy and rehabilitation Clinic, University of Lahore Teaching Hospital and Punjab Social Security Hospital. Non probability convenient sampling technique was used. Data were collected by Modified Fonseca's Anamnestic Index (IAF) Questionnaire.

Results: Mean age of patients participated was

25.5 years. Frequency of TMJ dysfunction in was 92.86%. Pain intensity, on VAS, showed that 16.7% had mild, 73.8% moderate and only 9.5% severe pain. Level of disability showed that 38.1% had mild, 40.5% moderate, 14.3% severe TMJ dysfunction and 7.1% had no TMD dysfunction.

Conclusion: Majority of patients coming with cervical pain had mild to moderate TMJ dysfunction and had moderate temporomandibular joint pain. Very small amount of participants had severe temporomandibular dysfunction. (Rawal Med J 202;46:114-117).

Keywords: Temporomandibular, cervical pain, physical therapy.

INTRODUCTION

The temporomandibular joint (TMJ) is present between the lower jaw and the base of the skull.¹ Temporomandibular dysfunction (TMD) is a term that encompasses a range of clinical conditions affecting TMJ, muscles involved in mastication or interconnected orofacial structures.² It is most commonly seen in people between the ages of 20 and 40 years. Symptoms of temporomandibular disorders are less common in male than in female population.³ Symptoms are craniofacial pain that involves the TMJ, masticatory muscles, or muscle innervations of the head and neck.⁴

Initiating factors are responsible for the onset of TMJ dysfunction and the healing process of TMD is controlled by persistent factors.⁵ Its diagnosis is based on clinical history and exploration. Electromyographic exploration has been used.⁶ Patient education, physiotherapy, stress management, occlusal corrections, pharmacological therapy, joint manipulation and modalities of management are all-in-one or multiple

combinations are used.⁷

People with cervical pain show symptoms of TMJ dysfunction and people with TMJ dysfunction presents with more pain in cervical region.⁸⁻¹⁰ Higher proportion of TMD was seen in patients who have neck/shoulder muscles pain.¹¹ Tender points were common in neck region and neck disability was directly proportional to jaw disability.^{12,13} The objective of this study was to determine the frequency and severity of TMD in patients who have pain in cervical region.

METHODOLOGY

This cross sectional study was conducted on 42 patients presenting with cervical pain coming for physical therapy treatment in different settings of Lahore including University Institute of Physical Therapy and rehabilitation Clinic, University of Lahore Teaching Hospital and Punjab Social Security Hospital. Non probability convenient sampling technique was used. Ethical approval was taken from University of Lahore. Participants from

both gender aged between 18 to 40 years with cervical pain, who voluntarily filled the consent form were included in the study. All those who were having systemic diseases, infections, Bell's palsy and unwilling were excluded.

Data were collected by Modified Fonseca's Anamnestic Index (IAF) Questionnaire which contained various questions about temporomandibular dysfunction in patients with cervical pain.¹⁴ Interoperating these total scores of all the questions were categorized as "No TMD = 0-15", "Mild TMJ dysfunction = 20-40", "Moderate TMJ dysfunction = 45-65" and "Severe TMJ dysfunction = 70-100".¹⁵

Statistical Analysis: Statistical analysis was performed using SPSS version 21. Frequency of TMJ dysfunction in patients with cervical pain, pain intensity on VAS and level of TMJ's disability were calculated.

RESULTS

Out of 42 participants, there were 11(26.2%) males and 31(71.8%) females. Mean age was 25.5 ± 6.55 years. The mean pain score was 45.24 ± 19.09 (Table 1). About 42.9% of people had pain in cervical region at the time of their participation. There were 21.4% participants that had developed pain in cervical region gradually without any clear reason though 42.9% of people had pain due to job function. Participants were asked about their daily routine and it was interpreted that pain sometimes was affecting around 59.5% participants whereas 26.2% subjects were being badly affected in their activities of daily living on daily basis. Only 11.9% of the people complained of having constant pain in their cervical region and rest of (88.1%) respondents had intermittent pain intervals (Table 2).

Table 1. Age and Total Pain Score among patients with cervical pain.

Variable	Mean	Standard Deviation
Age	25.55	± 6.55
Pain Score	45.24	± 19.09

Table 2. Gender and characteristics of pain.

Variables	Construct	Frequency	Percentage
Gender	Male	11	26.2%
	Female	31	71.8%
Pain at present	Yes	18	42.9%
	No	24	57.1%
Pain affecting daily activities	Yes	11	26.2%
	Sometimes	25	59.5%
	No	6	14.3%
Mechanism of onset of pain	Job function	18	42.9%
	Gradually without any clear reason	9	21.4%
	Other	15	35.7%
Frequency of pain	Constant	5	11.9%
	Comes and goes	37	88.1%
Pain management	Physical therapy	7	16.7%
	Medicines	12	28.6%
	Rest	23	54.8%
Frequent headaches	Yes	15	35.7%
	Sometimes	12	28.6%
	No	15	35.7%
Neck stiffness	Yes	11	26.2%
	Sometimes	17	40.5%
	No	14	33.3%

Table 3. Involvement of Jaw among patients with cervical pain.

Variables	Construct	Frequency	Percentage
Difficulty in mouth opening wide	Yes	9	21.4%
	Sometimes	10	23.8%
	No	23	54.8%
Difficulty moving jaw to any of sides	Yes	10	23.8%
	Sometimes	7	16.7%
	No	25	59.5%
Fatigue or muscle pain while chewing	Yes	12	28.6%
	Sometimes	10	23.8%
	No	20	47.6%
Ear aches or pain in temporomandibular area	Yes	15	35.7%
	Sometimes	10	23.8%
	No	17	40.5%
Any noise or sound in jaw while opening mouth or chewing	Yes	17	40.5%
	Sometimes	10	23.8%
	No	15	35.7%
Clenching or teeth grinding habit	Yes	4	9.5%
	Sometimes	38	90.5%
Teeth don't come together well	Yes	4	9.5%
	Sometimes	10	23.8%
	No	28	66.7%
Tense person	Yes	28	66.7%
	Sometimes	6	14.3%
	No	8	19.0%
Swelling at jaw	Yes	8	19.0%
	No	34	81.0%
Asymmetry or unequal face contour?	Yes	11	26.2%
	No	31	73.8%
Side of jaw involved	Right	8	19.0%
	Left	8	19.0%
	Both	20	47.6%
	No side is involved	6	14.3%

It was noted that 21.4% people continuously, 23.8% occasionally felt difficulty in opening mouth wide, 23.8% participants all the time & 16.7% had difficulty moving jaw from side to side from time to

time. There were 90.5% participants with habit of clenching teeth even often, 23.8% sometimes felt their teeth don't come together well whereas 9.5% always noticed their teeth don't come together well (Table 3).

DISCUSSION

In a study, the prevalence of TMD in patients with cervical pain undergoing physiotherapy treatment was 90% determined by using Helkimo's index.¹⁶ In a study conducted by Susan ArmijoOlivo and Magee to inquire the relationship between temporomandibular disorders and musculoskeletal impairments of cervical spine, 154 subjects who had TMJ defects were included and a series of physical tests were performed to check the musculoskeletal impairments of cervical region. A strong correlation between disability of neck and disability of jaw was found in the study.¹⁷

According to other studies people who had cervical pain showed symptoms of TMD and people with they presented with more pain in cervical region.^{9,10,12} In a study, higher proportion of TMD were seen in patients who have neck/shoulder muscles pain.¹¹ In another study tender points were common in neck region in patients with TMJ dysfunction and neck disability was directly proportional to jaw disability.¹⁸

The present study also suggests a relationship between temporomandibular disorders and cervical pain. Another study was performed to check the correlation between the degree of disability of neck and the chronic disability of TMD. The study concluded that there is a strong correlation between neck disability and jaw disability.¹⁹ The present study goes with literature as it suggests relationship between the temporomandibular disorders and cervical pain just like the previous studies.

Small sample size was taken because only those patients were recruited who were coming for physical therapy. More contributions to this topic can be added from further research and investigations using large samples, more duration and having longitudinal designs would further elaborate the explanation and define the relationship between TMD and cervical pain.

CONCLUSION

Majority of patients coming with cervical pain were also affected with TMJ dysfunction and significantly had moderate temporomandibular joint pain whereas mild to moderate level of temporomandibular dysfunction. Very small amount of participants had severe temporomandibular dysfunction.

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