DOI: 10.7860/JCDR/2025/80478.21814

Relationship between Cervical Flexor Strength and Endurance in Patients with Chronic Neck Pain: An Observational Study

Aryan Dharmaik, BPT, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Jatin Sangwan, MPT (Neurology), (PhD), Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Urvashi, MPT (Cardiothoracic and Pulmonary Disorder), (PhD), Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Aditi Popli, MPT (Orthopaedics), (PhD), Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Shivangi Palsra, MPT (Orthopaedics), Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Jatin Sangwan,

MPT (Neurology), (PhD), Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar University (Deemed to be University), Mullana, Ambala, Haryana, India.

E-mail: sangwanjatin1234@gmail.com

ABSTRACT

Introduction: The global prevalence of neck pain was estimated at 288.7 million cases in 2017. Neck pain is often described as a condition with recurring episodes throughout life, with varying recovery levels between episodes. Studies on the effects of neck pain on the cervical motor system, posture, and movement have increased significantly, especially in the last 20 years.Decrease in cervical flexor endurance can lead to cervical dysfunction, tissue overload, trauma, and discomfort since it is connected with cervical spine function.

Aim: The aim of the study is to examine the relationship between cervical flexor strength and endurance in patients with chronic neck pain.

Materials and Methods: A total of 156 patients with chronic neck pain were recruited from Physiotherapy OPD, MM Superspeciality Hospital; the participants were male or female, aged 25-40 years and Visual Analogue Scale (VAS) 3.5-7.4 using convenient sampling method. Participants were excluded if they have acute neck pain, radicular pathology, cervical trauma within last six months and severe neck pain on VAS. Demographic data was recorded after taking consent from the participants. Based on the requirements, cervical flexor strength and endurance were assessed with two test which are pressure biofeedback test and neck Neck flexor endurance test.

Results: Statistical analysis was done using SPSS version 22.0. Kolmogorov Smirnov test was used for assessing normality. As the data was not normally distributed, Mann-Whitney U test was used for data analysis by comparing the values of strength and endurance of the cervical flexors muscles. The statistical significant result was set if p-value ≤0.05.

Conclusion: There was a statistical significant difference in the strength and endurance of cervical muscles in chronic neck pain patients. The finding of this study suggests that decreasing strength and endurance of neck flexor muscle will contribute to the neck pain and disability.Avoiding fear response commonly seen in the neck pain patients which leads to reduction of muscle strength and endurance.

Keywords: Cervical dysfunction, Neck pain, Tissue overload.