

Effectiveness of Strengthening of Deep Cervical Flexors Using Pressure Biofeedback on Vertical Mandibular Opening & Craniovertebral Angle in Young Adults with Forward Head Posture: An Experimental Study

Dr. Mukesh Shinde*, Dr. Mahesh Mittr

Dr. Ulhas Patil College of Physiotherapy, Jalgaon

*Corresponding author

ABSTRACT

Introduction: Forward head posture is associated with weakness in deep cervical short flexor & shortening of the opposing cervical extensor & Pectoralis muscles. Deep cervical flexor (DCF) has a major postural function in supporting and straightening the cervical lordosis. There were few studies on correlation between craniovertebral angle & vertical mandibular opening. So, there was need to evaluate effect of deep cervical muscle strengthening on forward head posture and vertical mandibular opening and find out correlation between vertical mandibular opening (VMO) and craniovertebral angle (CVA).

Methodology: Total 84 subjects were included in an experimental study. Subjects were screened according to the inclusion and exclusion criteria. Selected CVA were assessed using MB ruler software (ICC= 0.88). Selected VMO was measured using a ruler (ICC= 0.95-0.96). Subjects were received DCF strengthening using pressure biofeedback, 2 sets of 10 repetitions, 5 days per week for 4 weeks. 'Paired t test' was used within group to test change in quantitative data, pre-intervention and post-intervention. For the correlation between VMO & CVA, Pearson's correlation coefficient test was used.

Results: Strengthening of DCF using pressure biofeedback was effective in improving CVA & VMO (p value <0.0001) & moderate positive correlation ($r=0.4509$) exist between CVA & VMO (p value <0.0001).

Conclusion: The study concluded that strengthening of deep cervical flexors using pressure biofeedback is effective on improving vertical mandibular opening & craniovertebral angle in young adults (18-30 years) with forward head posture.

Keywords: Craniovertebral angle, Deep cervical flexors, Forward head posture, Pressure biofeedback, Vertical mandibular opening

