

# Comparison of bruegger's exercise with elastic resistance band and deep cervical flexor training with pressure biofeedback unit in asymptomatic subjects with forward head posture: A randomized controlled trial



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## Abstract

**Background:** Forward head posture (FHP) is the most frequently attained postural deviation associated with rounding of shoulders. These postural deviations are caused due to a muscular imbalance, which occurs around scapula and shoulder joint.

**Objectives:** To study and compare the effect of Bruegger's Exercise, deep cervical flexor training (DCFT) on Craniovertebral angle (CVA), Craniocervical flexion endurance test (CCFET), and Pectoralis minor index (PMI) in asymptomatic subjects with FHP.

**Methods:** The present study was three arm parallel randomized controlled trial. Fifty-one subjects with asymptomatic forward head posture were allocated to either Group A (Bruegger's Exercise with Elastic resistance band) or Group B (deep cervical flexor training with Pressure Biofeedback Unit) or Group C (control or Isometric neck exercises). The primary outcome was CVA and the secondary outcomes were CCFET and PMI. All subjects were assessed on 1st day and end of 3rd week, for CVA, CCFET, and PMI. Follow up assessment was done for CVA alone at 6th and 9th week. Statistical analysis included Paired t-test/Wilcoxon signed-rank test, ANOVA/Kruskal-Wallis test and Shapiro-Wilk test.

**Results:** All subjects completed the entire study protocol with no loss to follow up. All the groups showed improvement in CVA and CCFET when compared between pre- and post-intervention. For pectoralis minor index, only Bruegger's exercise showed increase in the length. Endurance increased significantly ( $P < 0.0002$ ) in Bruegger's and DCFT group. For CVA at 3rd week intervention ( $P < 0.0205$ ) and 9th week follow up ( $P < 0.0029$ ), Bruegger's group was better than DCFT and Control group.

**Conclusion:** Bruegger's exercise with elastic resistance band is the best exercise to correct the posture from head to shoulder to scapula and can be included in treatment of patients with postural problems of head and neck. Bruegger's exercise should be included in neck pain rehabilitation rather than simple neck isometrics.

**Key words:** Postural Abnormalities, Cervical spine, Muscle Imbalances, Scapula Retractor Exercise, Isometrics, Pectoralis Minor.

## Biography

Peeyoosha has completed her Master of Physiotherapy (Musculoskeletal and Sports) from KLE Institute of Physiotherapy, Rajiv Gandhi University of Health Sciences, Bengaluru. She is presently working as Associate professor KAHER Institute of Physiotherapy, Belagavi with 13 years of teaching and research experience. She has received Best Teacher Award by KLE University in the year 2012 and Best Teacher of Students' Choice by the employer institute in the year 2018. She has around 25 publications in national and international journals, a few of which are indexed in Scopus and Pubmed and her publication. She has been serving as managing editor for Indian Journal of Physical Therapy and Research for last 2 years. She [along with a colleague] has worked towards devising equipment 'ALGOCURE' which is an automated machine to assess and treat the myofascial trigger points [applied for patent]. She was resource person at CME, conference, camps and workshops. She has guided around 16 postgraduates for dissertation. She has presented scientific papers at national and international level conferences. Her motive is to impart the best of the education to the students keeping up with the recent trends in Physiotherapy and to benefit the organization that can use a skilled Physical Therapist dedicated to the highest standards of education and patient care.



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