International Journal of Healthcare Education & Medical Informatics
CHETPHYSIOCON 2024 Conference
1-June-2024

Effectiveness of Isometric Exercises and Met on Cv Angle, Pain, Cervical Range of Motion on Forward Head Posture among University Students

T Muthu Raj[1], K C Gayathri[2], P Senthil[3], Mohamed Nainar[4], Alagappan Thiyagarajan[5]

[1]Undergraduate student, [2]Assistant Professor, [3]Dean, Chettinad School of Physiotherapy (CSP), Chettinad Hospital and Research Institute (CHRI), Chettinad Academy of Research and Education (CARE) Kelambakkam, Tamil Nadu, India.
[4]Senior Physiotherapist, [5]Cheif Physiotherapist, Department of PMR, Chettinad Hospital and Research Institute (CHRI), Chettinad Academy of Research and Education (CARE) Kelambakkam, Tamil Nadu, India.

Email Id: gaybhava@gmail.com.

Abstract

Introduction: Forward head posture (FHP), affecting an estimated 66% of patients, is characterized by the head moving forward from the cervical spine, resulting in an exaggerated anterior lower cervical curve and posterior upper thoracic curvature. This posture often leads to neck pain and reduced cervical range of motion, necessitating interventions to restore functional mobility and prevent recurrent injury.

Methods: 30 subjects meeting specific criteria participated. They were informed about the study's goals and provided informed consent. The baseline measurements included the Cranio Vertebral Angle (CVA) using the MB Ruler, cervical range of motion using a goniometer, and pain levels using the Numeric Pain Rating Scale (NPRS). These measurements were taken before and after three weeks of therapeutic intervention.

Results: The CVA improved from a mean pre-test value of 45.43 to a post-test value 48.73. NPRS scores decreased from 7.66 to 3.56, indicating reduced pain. Cervical range of motion also showed significant enhancements: flexion increased from 34.13 to 41.93, extension from 43.00 to 55.23, left rotation from 51.26 to 73.26, right rotation from 50.86 to 73.03, left lateral flexion from 25.00 to 38.50, and right lateral flexion from 24.16 to 37.86. These improvements were statistically significant ($P \leq 0.001$).

Conclusion: the study found that isometric exercises combined with muscle energy techniques effectively reduce pain and improve the cranio-vertebral angle and cervical range of motion in individuals with forward head posture, particularly among university students.