

# Effect of Using Powered Eye Glasses and Contact Lenses on Deep Cervical Flexor Muscle Endurance and its Correlation with Neck Posture in Healthy Population

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## ABSTRACT

**Introduction:** The use of powered eyeglasses and contact lenses is frequently seen in people of all ages who have difficulty in seeing. Contact lenses are a good alternative for power lenses. Activities such as reading, mobile use, computer job, watching television needs certain cervical movements or small adjustments as well as compensatory postures to make the vision clear and better for the task. This task involves the flexion of the cervical which involve anterior neck muscles. Neck flexion may facilitate forward head posture (FHP). In such neck positions, the deep neck flexor (DNF) muscles are most commonly recruited to maintain a stable posture of the head over the cervical spine. The given study aimed to know the relation of eyeglasses and powered lenses on deep cervical neck flexors endurance.

**Methods:** It is a Comparative Observational Study. Healthy young adults were included in the study who had eye glasses and contact lenses for 1 year or more. Assessment of endurance of deep neck flexors was done by pressure biofeedback and forward head posture was measured using craniovertebral angle respectively.

**Results:** One-way analysis of variance (ANOVA) to compare DNF endurance between these three groups. On comparing the DNF endurance in these groups showed contact lens group had least DNF endurance followed by Spectacles group and normal group. Also, the reduction in craniovertebral angle in contact lenses group as compared with other group, thus they exhibits FHP.

**Conclusions:** Use of contact lenses reduces the DNF endurance and leads to forward head posture over time. These two factors are commonly associated with development of neck pain and disability.

**Keywords:** Deep neck flexors, Contact lenses, FHP

