

Comparison of Neck Range of Motion and Neck Lordosis Angle between Spectacle Users and Non-Spectacle Users among First Year Undergraduates of University of Peradeniya

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Due to prism effect of glasses, objects are viewed in different line of sight than the normal. Spectacle users might compensate this by lifting chin or by leaning forward. Repetitive use of incorrect postures can be learnt as “daily habits” affecting the normal physiology and biomechanics of the neck. Present study was focused on determining the effect of spectacle wearing on neck ROMs (Range of motions) and lordosis angle and further to determine correlations between the cervical ROMs and lordosis angle. A randomized sample of 100 first year undergraduates of University of Peradeniya (age=19-24) who wore spectacles (n=50) and an age sex\ matched control group who did not wear spectacles (n=50) were included. Male: female ratios were 1:1. Cervical ROMs were measured using Universal Goniometer. Flexible ruler was used to measure the cervical lordosis. Significant differences were not found in cervical ROM ($p>0.05$) and lordosis angle ($p>0.05$) between spectacle users and non-users. Comparison of data across the sub-groups; male wearers and non-wearers showed a significant difference ($p=0.012$) among flexion angles. Among spectacle users, weak positive correlations were found between forward flexion ($p<0.001$), right lateral flexion ($p<0.05$) and left lateral flexion ($p<0.05$) with the lordosis angle, among non-users left neck rotation ($p<0.05$) with the lordosis angle. The neck ROMs and lordosis angle between spectacle users and non-users were found to be non-significant and therefore it can be concluded that neck ROMs and lordosis are not affected by spectacle wearing in general. Positive correlations between neck ROMs and lordosis angle among both groups were novel findings.

Key words: Cervical Spine, Spectacles Wearers, Non-wearers, Neck ROM, Lordosis Angle