

Relationship between Craniovertebral Angle with the Long-Term Usage of Electronic Devices among Undergraduates of General Sir John Kotelawala Defence University

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Long-term usage of electronic devices among undergraduates has become a growing problem all around the world. Prolong usage of these devices can result in malalignment of the normal posture. Forward head posture (FHP) is known as the commonest postural abnormality resulted due to long term usage of smartphones and laptops. The purpose of this study was to determine the relationship between craniovertebral angle with the duration of smartphone and laptop usage among undergraduates, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University. This is a descriptive cross-sectional study. 228 undergraduates, within 19- 24 years of age, using smartphones and laptops for more than 1 year were recruited by the consecutive sampling method. Those who had previous cervical injuries/congenital deformities and who didn't grant informed consent were excluded. A self-administered questionnaire was given to collect information. CVA was measured by lateral view photographs using the KINOVEA app. According to the results the mean values of age, BMI and CVA were (21.83±1.57 years), (22.86±4.39kg/m²), (46.53±5.49degrees). Pearson correlation coefficient was used to quantify the linear relationship of CVA with the duration of smartphone, laptop usage and BMI. A statistically significant negative correlation was obtained between CVA and the duration of smartphone usage (p < 0.05, r = -0.35), duration of laptop usage (p < 0.01, r = -0.047) and BMI (p < 0.01, r = -0.55). The findings of the study concluded that long-term usage of electronic devices could result in reducing the craniovertebral angle. Furthermore, BMI has a statistically significant negative relationship with CVA.

Keywords: *craniovertebral angle, smartphones, laptops*