

Prevalence of Smartphone Addiction and its Impact on Neck Muscle Strength, Endurance, and Handgrip Strength among Undergraduates of Faculty of Allied Health Sciences, University of Peradeniya

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Smartphone usage is rapidly increasing worldwide and has developed to a level of addiction which evolve a global issue. This addiction level is especially high among younger population and it affects their physical and psychosocial health. Smartphone addiction (SA) has a direct impact on the neck muscles and hand muscles which are mostly involved during prolong smartphone usage. There were no similar studies conducted in Sri Lanka. Hence, this study aimed to investigate the SA and its impact on neck muscle strength, endurance and handgrip strength among undergraduates. A descriptive cross-sectional study was carried out among 225 undergraduates who were using smartphones, representing four academic years in five departments of the Faculty of Allied Health Sciences, University of Peradeniya. Smartphone Addiction Scale-Short Version was used to assess SA status and standard physical tests were used to assess muscle strength and endurance of neck flexors and neck extensors and hand grip strength. The study revealed that there was 62.7% prevalence of SA among undergraduates where males (74.6%) were found to be more addicted than female (57.1%) students. Comparison of neck muscle strength and endurance between addicted and non-addicted undergraduates suggest that smartphone non-addicted students have significantly higher neck flexor ($p=0.004$) and extensor ($p<0.001$) muscle strength, neck flexor ($p=0.016$) and extensor ($p=0.007$) muscle endurance and handgrip strength (Right: $p=0.043$, Left: $p=0.023$) compared to smartphone addicted students. The study found that there is an adverse impact of SA on neck muscle strength, endurance and handgrip strength. Additionally, a significant association was observed between gender and SA. This study found a 62.7% SA prevalence among undergraduates which has a significant impact on neck muscle strength, endurance and handgrip strength. Future studies are needed to investigate the reasons for SA among university students and this information will be helpful in identifying essential measures to reduce smartphone addiction.

Keywords: Smartphone addiction, Undergraduates, Neck muscles strength, Neck muscles endurance, Handgrip strength