Introduction: We investigated the flexor pollicis longus (FPL) tendon and median nerve in smartphone users by ultrasonography to assess the effects of smartphone addiction on the clinical and functional status of the hands.

Methods: One-hundred-two students were divided into 3 groups: Non-users, high and low smartphone-users. Smartphone Addiction Scale (SAS) scores and grip and pinch strengths were recorded. Pain in thumb movement and rest and hand function were evaluated on a visual analog scale (VAS) and the Duruoz Hand Index (DHI) respectively. The cross sectional areas (CSA) of the median nerve and the FPL tendon were calculated bilaterally with ultrasonography.

Results: There were significantly higher median nerve CSAs in the dominant hands of the high smartphone users than non-dominant hands (P<0.001). The SAS scores correlated with the VAS pain for movement and rest, the DHI scores, and pinch strength (P<0.05, r=0.345, 0.272, 0.245, and 0.281 respectively).

Discussion: Smartphone overuse enlarges the median nerve, causes pain in the thumb, and decreases pinch strength and hand functions.