

Differences in spinal posture and mobility between adults with obesity and normal weight individuals.

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The aim of this study was to cross-sectionally investigate the relationships between obesity and spinal posture as well as mobility by comparing the spinal parameters between adults with obesity and normal-weight individuals. The spinal parameters were measured in 71 adults with obesity and 142 normal-weight individuals using a radiation-free back scan, the Idiag M360. Differences in spinal posture and movements between the two groups were determined using a two-way analysis of variance. Adults with obesity had greater thoracic kyphosis [difference between groups (Δ)= 6.1°, 95% CI 3.3°-8.9°, $p < 0.0001$] and thoracic lateral flexion (Δ = 14.5°, 95% CI 5.1°-23.8°, $p = 0.002$), as well as smaller thoracic flexion (Δ = 3.5°, 95% CI 0.2°-6.9°, $p = 0.03$), thoracic extension (Δ = 4.1°, 95% CI 1.1°-7.1°, $p = 0.008$), lumbar flexion (Δ = 10.4°, 95% CI 7.7°-13.5°, $p < 0.0001$), lumbar extension (Δ = 4.8°, 95% CI 2.2°-7.4°, $p = 0.0003$) and lumbar lateral flexion (Δ = 12.8°, 95% CI 9.8°-15.7°, $p = < 0.0001$) compared to those with normal weight. These findings provide relevant information about the characteristics of the spine in adults with obesity to be taken into careful consideration in the prescription of adapted physical activities within integrated multidisciplinary pathways of metabolic rehabilitation.

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