CONCURRENT VALIDITY OF CLINICAL TESTS FOR MEASURING HAMSTRING FLEXIBILITY IN SCHOOL AGE CHILDREN.

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ABSTRACT

The objectives were 1) to evaluate the hamstring muscle flexibility in children and adolescents; 2) to examine the relative contribution of the spinal curvatures, pelvic tilt and hamstring flexibility on the sit-and-reach (SR) score; and 3) to determine the validity of the sit-and-reach test through both active and passive hip flexion tests. 118 children and adolescents (aged 7-18 years; 60 males and 58 females) were tested for sit-and-reach (SR), passive straight leg raise (PSLR) and active straight leg raise (ASLR). The spinal curvatures and pelvic tilt were assessed during the SR test by means of the Spinal Mouse system. Females showed a statistically greater anterior pelvic tilt, distance reached in the SR test and hip flexion in both PSLR and ASLR tests than males. The pelvic tilt independently explained more than 60% of the variance (distance reached in the SR test) and in conjunction with lumbar flexion explained more than 80% of the variance. In conclusion, the pelvic tilt is the main determinant of SR test in school age children. The SR test can be considered an appropriate and valid test for evaluating pelvic tilt and lumbar flexion in school age children, but not to measure hamstring flexibility.