



RehabMove 2018: VALIDATION OF THE MYJUMP2(TM) APP IN COUNTERMOVEMENT JUMP IN YOUNG CP FOOTBALL AMATEUR PLAYERS

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INTRODUCTION: The Countermovement Jump (CMJ) is widely used to evaluate the muscles power in several populations as well as in individuals with physical disabilities. MyJump2™ (MJ2) is a mobile APP developed to measure the CMJ; however, it was not validated for football players with cerebral palsy (CP). The aim of this study was therefore to compare CMJ performed by athletes with CP measured by a mobile (iPhone 6 plus) with those obtained by a force plate (FP) (BIOMECH400, EMG System do Brazil – here considered the gold standard).

METHODS: 9 young males football players with CP (14.3 ± 1.0 years, 60.4 ± 3.2 kg and 169.3 ± 4.7 cm) participated in this study. The CMJ was performed and assessed using Force Platform and the mobile at the same time. The following dependents variables were computed by MyJump2™ app and the force plate: jump height, flight time and jump velocity.

RESULTS: No significant differences were found between the instruments measures for the tested variables (jump height, MJ2: 30.0 ± 16.2 ; FP: 33.4 ± 15.2 cm, $p = 0.148$ - flight time, MJ2: 482.3 ± 133.9 ; FP: 512.4 ± 128.3 ms, $p = 0.149$ and - jump velocity, MJ2: 1.18 ± 0.33 ; FP: 1.23 ± 0.46 m.s⁻¹, $p = 0.153$) . Additionally, strong reliability was found between the equipments for all variables (ICC = 0.95, $p < 0.001$).

DISCUSSION: In this preliminary study, MyJump2™ seems to be reliable to assess the CMJ jump performance in young Footballers with CP. Our results are in accordance with others which have shown good agreement between the mobile app outputs and reference methods (Balsalobre-Fernández et al., 2015). In this sense, MyJump2™ can be used in the training control of these Paralympic athletes.

CONCLUSIONS: Our results are suggesting that the MyJump2™ is reliable tool to measure the CMJ in young athletes with CP.