

224 OPTIMIZING PEAK & MEAN POWER DOES NOT MAKE WINGATE TEST A BETTER PREDICTOR OF SPRINT ABILITY

K. S. Almuzaini, A. Alghamdi, M. Suliman, M. Dafterdar
Exercise Physiology Lab, KSU, Riyadh, KSA, e-mail kmuzaini@ksu.edu.sa
(Sponsor H. M. Al-Hazzaa, FACSM)

The purpose of this study was to investigate whether performance on the Wingate anaerobic power test (WAnT), when using the optimal braking force, was a better predictor of sprint ability than that of vertical jump (VJ) or long jump (LJ). Twenty-three 12-year-old boys performed a 50 m dash, VJ, LJ, and WAnT using four braking force resistances (BFR) (.065, .070, .075, .080 kp/kg body mass). Results revealed significant differences among the four BFR in peak (PP) and mean power (MP). Post-hoc tests indicated that the .080 produced significantly the highest PP (356.1 ± 58.1 W) and the .075 produced the highest MP (181.1 ± 40.3 W), though not significantly different from that of the .080 (180.8 ± 40.9 W). WAnT scores for PP were not significantly correlated with scores of the 50 m dash in any of the BFR ($r = -.11, -.34, -.31, -.28$ for the .065, .070, .075, and .080, respectively). These values were lower when the effect of body weight (wt), BMI, or %fat were partialled out. However, scores for the MP were significantly correlated with scores of the 50 m dash in all of the BFR ($r = -.44, -.43, -.52, -.54$ for the .065, .070, .075, and .080 respectively). These correlations were higher when wt was adjusted for. Correlations between the 50 m dash scores and those of the VJ ($r = -.31$) or LJ ($r = -.19$) were not significant. These correlations were improved little when %fat was partialled out. In conclusion, performance on the WAnT is a better predictor of sprint ability than scores from VJ or LJ. However, optimizing PP and MP on the WAnT doesn't necessarily improve its relationship with sprint type activities.