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Abstract :

The aim of this study was to identify the contribution of several anthropometrical, bioenergetical and biomechanical parameters for the 200 m front crawl performance (Perf200m) during the peak form of the summer season. Eight Portuguese male swimmers from international and national level were analyzed in a period coincident with important competitions (july of the 2010-2011 season). Anthropometrical assessment included the body mass (MC), height (Est) and arm span (Env). An incremental set of 7 x 200 m front crawl was applied to obtain: i) the velocity of the maximal lactate equilibrium estimated to the 4 mmol (V4), maximal blood lactate concentration ([La-.sub.pico]), maximal oxygen consumption ([VO.sub.2]max), minimum velocity where the maximal oxygen consumption is reached (v[VO.sub.2]max) maximal metabolic power ([E.sub.tot]) and energy cost (C), as energetical parameters and ii) stroke distance (DC), stroke frequency (FG), stroke index (IN) and propelling efficiency ([eta]p), as biomechanical indicators. The results demonstrated that the V4 ($r = -.75$, $p = .03$), v[VO.sub.2]max ($r = -.83$, $p = .03$) and [E.sub.tot] ($r = -.83$, $p = .03$) were significantly correlated with Perf200m. **Keywords:** prediction, performance, elite swimmers, linear regression, summer season

O presente estudo procurou determinar o contributo dos factores antropometricos, bioenergeticos e biomecanicos para a performance dos 200 m crol (Perf200m) no pico de forma na epoca de verao. Foram analisados oito nadadores portugueses num periodo coincidente a competicoes importantes (julho da epoca de 2010-2011). A avaliacao antropometrica incluiu a determinacao da massa corporal (MC), a estatura (Est) e envergadura (Env). Recorreu-se a aplicacao de um teste incremental de 7 x 200 m crol de modo a determinar: i) velocidade de lactato estimado as 4 mmol.[L.sup.-1] (V4), maxima concentracao de lactato apos esforco ([La-.sub.pico]), consumo maximo de oxigenio ([VO.sub.2]max), velocidade minima de obtencao do [VO.sub.2]max (v[VO.sub.2]max), dispendio energetico total (Etot) e custo energetico (C), como parametros bioenergeticos e ii) frequencia gestual (FG), distancia de ciclo (DC), indice de nado (IN), e a eficiencia propulsiva ([eta]p) como variaveis biomecanicas. A Perf200m associou-se significativamente com a V4 ($r = -.75$, $p = .03$), v[VO.sub.2]max ($r = -.83$, $p = .03$) e [E.sub.tot] ($r = -.83$, $p = .03$). **Palavras-chave:** predicao, performance, nadadores de elite, regressao linear, epoca de verao