PHYSIOLOGICAL PROFILES OF ELITE MALE MALAYSIAN BADMINTON PLAYERS

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Introduction: There have been a number of reports in the research literature analyzing the physiological demands on players during badminton games (1,2). The game demands speed, anaerobic capacity and aerobic power (3,5). However, very few of these reports have focused on players from Asia who tend to dominate the game at international level. Malaysia has an outstanding record of producing world ranked players over many years. Thus the physiological profile of elite Malaysian badminton players should provide insight as to some of the attributes required to play the game at an elite level. We recognize that other factors beyond the scope of this study also contribute to performance such as technical skill, concentration, perceptual judgment and visual acuity etc.

Methods: The physiological profiles of the currently ranked top ten male Malaysian badminton players were developed from assessment of anthropometric data, measures of explosive power, strength, aerobic power and badminton specific movement-agility test on the badminton court. The test protocols employed are described in detail elsewhere (5).

Results: The players characteristics were age 26.1 ± 3.7 yr, body mass 73.2 ± 8.1 kg, body fat 12.7 ± 5.3%, and VO2max 54.6 ± 3.4 mL/kg/min (all means ± SD). Average vertical jump height for squat and countermovement jump were 35.9 ± 3.9 cm and 41.8 ± 4.7 cm, respectively. Upper and lower body strength as indicated by one repetition maximum bench press and squat were 77.3 ± 10.0 kg and 135.2 ± 14.5 kg, respectively. Average time for on-court side-way movement (10 reps) and four-corner repeated-effort agility test (16 reps) were 15.7 ± 0.6 s and 33.4 ± 1.1 s, respectively.

Discussion: This battery of physiological performance assessments reflects the perceived attributes of elite badminton players, although further analyses are required to determine the validity of each of the assessment tools. It is of interest to note that Hughes et al suggest that vertical jump and standing long jump tests which are commonly used in assessing badminton players are not associated with a badminton-specific movement speed test, and as such the validity of these jump tests should be questioned (4). Further analyses of our data should establish the reliability and validity of a select group of physiological performance assessments that will have high predictability of badminton game performance amongst elite players.

Conclusion: The data shows that elite Malaysian badminton players have moderately high aerobic power, explosive strength and agility in court specific movements.


Keywords: Physical Abilities, Assessment and Evaluation, Badminton