

How to Improve Aerobic and Anaerobic Capacities in Boy Adolescent Hill Tribe Athletes?

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ABSTRACT

Exercise capacity for both aerobic and anaerobic is crucial for athletes including young adolescents . Hill tribe athletes may have different in body compositions and exercise capacity from lowlanders. This study aimed to evaluate predictors of aerobic and anaerobic capacity in adolescent hill tribe athletes.

This was cross-sectional study enrolled hill tribe athletes, age between 13 and 17 years, had at least two years' experience in the school sport team, and agreed to participate . Body compositions and physical performance were recorded. Factors associated with VO₂max and 20-meter sprint test were executed by linear regression analysis.

During the study period, there were 37 boy hill tribe athletes met the study criteria. There were three factors were independently associated with VO₂max: ball throw, upper extremity response time, agility test. The first factor had adjusted coefficient of 2.74 (p= 0.011), while the latter two factors had negative adjusted coefficients of -135.41 and -3.50 (p < 0.001 for both factors). For 20 m sprint test, there were three predictive factors: fat mass, agility test and standing height jump. The adjusted coefficients of these factors were 0.01, 0.14, and -0.02 (p =0.02, < 0.001, and 0.001).

Practice to have long ball throw, shorter upper extremity response time, and shorter agility time may improve aerobic capacity, while low fat mass, short agility time and increasing standing height jump may increase anaerobic capacity in adolescent hill tribe athletes.

Keywords: Ball throw; Fat mass; Agility

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