

The physical training and aerobic exercise capacity of professional football players in the pre-competition period

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Abstract

Background. Physical training in the pre-competition period should depend on the position of players – outfield players and goalkeepers – in order to ensure an optimal exercise capacity in competitions.

Aims. The indicators of aerobic exercise capacity: maximal O₂ uptake (VO₂max); maximal aerobic power (MAP); true aerobic capacity (TAC) were examined in young professional athletes – football players, for an adequate training program.

Material and methods. Group I – young professional athletes – football players (n=34); Subgroups: Ia – goalkeepers (n=3); Ib – forwards (n=10); Ic – midfielders (n=12); Id – defenders (n=9). The measured anthropometric indicators were: direct - weight (W) in kg by weighing and height (H) in cm, using a height measure; indirect – the body mass index (BMI) calculated by the formula W/H^2 (kg/m²). The indicators of aerobic exercise capacity (AEC) were: maximal O₂ uptake in ml (VO₂max); maximal aerobic power in ml/kg (MAP = VO₂max/W); true aerobic capacity in % (TAC); the level of true aerobic capacity compared to that of ideal aerobic capacity in ±% (TAC-IAC).

Results. 1. Age and anthropometric parameters do not differ between the subgroups. 2. AEC parameters do not differ between the subgroups. 3. VO₂max increases with W and H.

Conclusions. AEC values in the pre-competition period are good, which justifies a sustained training program for the obtaining of very good to excellent values, according to standard requirements.

Keywords: aerobic exercise capacity, football, weight, height, body mass index.