

Gambaran Persentase Massa Otot, Asupan Cairan Latihan, Dan VO₂Max Pada Atlet Sepak Bola Usia 17–18 Tahun Di Klub Putra Mumbulsari (*A Profile of Muscle Mass Percentage, Fluid Intake During Training, and VO₂Max in 17- to 18-Year-Old Soccer Players at Putra Mumbulsari Club*).

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ABSTRACT

Soccer requires excellent physical condition, including good aerobic capacity (VO₂Max), adequate muscle mass, and sufficient fluid intake during training. This study aimed to determine the percentage of muscle mass, fluid intake during training, and VO₂Max among 17-to 18-year-old soccer athletes at the Putra Mumbulsari Club. This study is a descriptive study with a cross-sectional design conducted in April 2026, involving 23 athletes selected using total sampling. The percentage of muscle mass was measured using a Tanita BC-541 BIA; fluid intake was assessed through interviews using a modified fluid intake form before, during, and after exercise; and VO₂Max was measured using the Bleep Test. This study is a descriptive study with a cross-sectional design conducted in April 2026, involving 23 athletes selected using total sampling. The percentage of muscle mass was measured using a Tanita BC-541 BIA; fluid intake was assessed through interviews using a modified fluid intake form before, during, and after exercise; and VO₂Max was measured using the Bleep Test. Data were analyzed univariately using SPSS version 24.0. The results showed an average muscle mass percentage of $34.10 \pm 3.19\%$, classified as “good.” The average fluid intake during the exercise period was $1,843.47 \pm 467.91$ ml, classified as “inadequate”; intake before exercise (651.55 ± 161.31 mL) and after exercise (588.87 ± 219.45 mL) were classified as good, while intake during exercise (603.04 ± 366.10 mL) was classified as insufficient. The average VO₂Max value was 41.35 ± 6.06 ml/kg body weight/minute, classified as “good.” The conclusion of this study is that the majority of 17–18-year-old soccer players at the Putra Mumbulsari Club have muscle mass percentages and VO₂Max in the “good” category; however, fluid intake during the training period is still considered insufficient, particularly during the training phase, thus requiring improvements in fluid intake management for these athletes.

Keywords: *Muscle mass percentage, fluid intake during training, VO₂Max, soccer athletes.*