# Concordance of equations that predict the percentage of fat in young players [Concordancia de ecuaciones que predicen el porcentaje de grasa en jóvenes futbolistas]

Urra Albornoz C.

Pezoa Fuentes P.

Alvear Vasquez F.

Cruz Flores I.

Gomez Campos R.

Valenzuela P.

Pacheco Carrillo J.

Cossio Bolanos M.

Background: The evaluation of body composition may be relevant in monitoring the potential effects of the training and health programs of young athletes. Objective: To analyze the concordance of a specific body fat% equation with generic equations that were developed for non-athletes and adult athletes. Methodology: A descriptive-comparative study was carried out. 109 young footballers from a professional soccer club in Chile were evaluated. The ages range from 12.9 to 20.4. The weight, standing height, sitting height, five skin folds (bicipital, subscapular, supra-iliac, abdominal) were evaluated. Somatic maturation was calculated by means of the years of peak growth rate (APVC). The percentage of fat (% G) was calculated through a specific equation for footballers and five general equations. Results: The chronological age was 16.1 ?} 1.8 years and the biological age was presented at 14.8 ?} 0.9APVC. The values of% G ranged from 8.8 to 14.3% in the six equations. The concordance coefficient (CC) and the values of precision (P) and accuracy between the Gomez-Boileau equation (CC = 0.34, P = 0.60, E = 0.42), Gomez-Slaugther (CC = 0.30), P = 0.60, P = 0.36, Gomez-Lohman (CC = 0.53, P = 0.70, E = 0.61), Gomez-Cossio-Bolanos (CC = 0.62, P = 0.80, E = 0, 68), and Gomez-Faulkner (CC = 0.48, P = 0.80, E = 0.52). Conclusion: The Lohman and Cossio-Bolanos equations proposed for adults can be used to predict the percentage of body

fat in young players between 12 to 20 years, since they showed concordance and high values of precision and accuracy in their predictions. 

Equations

Fat percentage

Soccer

Youth

adult

age

article

body fat

body height

Chile

clinical article

comparative study

controlled study

female

football player

growth rate

human

iliac bone

juvenile

male

prediction

skinfold

soccer