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Analysis of five amino acids and diet intervention for balancing protein metabolism among professional athletes

Background: Professional sports have a major impact onto athletes' protein metabolism. An essential role for sports performance is played by balanced diets that help meet energy requirements of athletes. The amino acid panel is important for exploration of protein metabolism.

Objective: The objective of this study was to explore protein metabolism profile among professional athletes through the measurement of amino acids levels of isoleucine, leucine, valine, arginine, and tryptophan.

Materials & Methods: Data was collected using quantum bioresonance equipment for measurement of amino acid levels, and a food frequency questionnaire was adapted for exploration of the nutritional status of athletes. Ninety nine (99) people took part in the study, 24 athletes from University of Medicine and Pharmacy Targu Mures aged 18-28 and 75 athletes from Transylvania University of Brasov between 19-46 years old. None of them were using protein supplements.

Results: None of the subjects monitored has deficiencies in amino acid levels measured. In our sample, 36 athletes (36.36%) had a slightly high level of isoleucine, 46 (46.46%) a slightly high level of leucine, 34 (34.34%) a lower level of tryptophan, 30 athletes (30.30%) presented a moderately high level of tryptophan and 2 (2.02%) a high level of tryptophan, also 45 (45.45%) a mild surplus of valine and 63 (63.64%) a mild surplus of arginine. Based on our questionnaire data, 64.64% of athletes were identified as having a higher animal protein intake than recommended, especially young male athletes.

Conclusion: The variations in athletes' protein metabolism, indicated by the discrepancies in the amino acids panel, point out the need to implement a well-organized and balanced diet for professional athletes that would help improve their performance and their weight during and after sport life.

Biography

Elena Mardale is a Bucharest based certified nutrition consultant and fitness diet nutrition specialist, certified by Asociatia Internationala Masterclass in 2014 and a student of the University of Medicine and Pharmacy in Targu Mures where she is currently completing the degree in Nutrition and Dietetics (graduation expected in 2019). She also holds a certification from Horeca School as a pastry chef. In the past two years she has been collaborating with UTA ARAD-Club Fotbal as nutritionist of the football team while running her individual freelance nutrition consultant activity. Her current research focuses on evaluation of the health status of professional athletes, with a particular interest to the role of antioxidants in their diets and overall health.

elenamardale@yahoo.com

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