

Palabras clave: Flexibilidad; Rango de movimiento; Condición física; Deportes

Objetivo. Valorar la flexibilidad de los principales grupos musculares de la extremidad inferior a través de pruebas de recorrido angular en jugadores de baloncesto de liga EBA.

Método. Trece jugadores de baloncesto de la Liga EBA (edad: $19,8 \pm 2,6$ años; peso: $89,4 \pm 11,6$ Kg; talla: $194,8 \pm 6,9$ cm) tomaron parte en este estudio. Entrenaban 4 días a la semana, 2 horas cada día y la media de años de entrenamiento fue de $9,6 \pm 2,3$ años. Se evaluó indirectamente la extensibilidad muscular de los principales grupos musculares de la extremidad inferior a través de 8 pruebas de rango de movimiento pasivo máximo. Un análisis descriptivo y por percentiles fue llevado a cabo para establecer los valores de referencia de normalidad (P_{21} - P_{79}). Una prueba t-Student para muestras relacionadas fue aplicada para determinar las posibles asimetrías de flexibilidad entre la extremidad dominante y no dominante.

Resultados. Los valores medios y su desviación típica fueron: $39^\circ \pm 5,1^\circ$ para el gemelo, $40,1^\circ \pm 6,1^\circ$ para el sóleo, $147,2^\circ \pm 6,5^\circ$ para el glúteo mayor, $78,2^\circ \pm 9,1^\circ$ para los isquiosurales, $43,9^\circ \pm 6,3^\circ$ para los aductores, $74^\circ \pm 5,7^\circ$ para los aductores monoarticulares, $14,8^\circ \pm 5,8^\circ$ para el psoas-iliaco y $134,7^\circ \pm 9,1^\circ$ para el cuádriceps.

Conclusión. Los valores de referencia de normalidad fueron 33° - 42° para el gemelo, 35° - 44° para el sóleo, 140° - 153° para el glúteo mayor, 70° - 85° para los isquiosurales, 36° - 49° para los aductores, 67° - 78° para los aductores monoarticulares, 9° - 20° para el psoas-iliaco y 125° - 139° para el cuádriceps. No fueron encontradas asimetrías bilaterales de flexibilidad.

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Metabolic effects of aerobic interval exercise combined with resistance training in obese rats

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Keywords: Lipid profile; Insulin sensitivity; Metabolic syndrome; Phenotype; Cholesterol

Objective. To investigate the effects of aerobic interval exercise combined with resistance training (AIEaRT) on body composition, lipid and glycaemic profile in obese rats.

Methods. Thirty-two Zucker rats were divided into a genetically obese phenotype (Fa/fa, n = 16) vs lean phenotype (Fa/+ , n = 16). Each phenotype was further divided into exercise or sedentary (n = 8). Exercise group followed a training protocol consisting in AIEaRT 60 min/day, 5 days/week for 8 weeks. Body weight, muscle and fat mass, plasma total cholesterol, LDL-cholesterol, HDL-cholesterol, phospholipids and triglycerides were measured. Blood fasting and postprandial glucose at 30, 60, 90 and 120 min were also estimated.

Results. Body fat was lower in the AIEaRT compared to the sedentary groups for both phenotypes (p < 0.001). Plasma triglycerides were lower in the AIEaRT compared to the sedentary obese group (p < 0.001). Plasma LDL-cholesterol and fasting glucose were lower in the AIEaRT compared to the sedentary groups for both phenotypes (p < 0.001). Postprandial glucose at 15, 30 and 60 min was lower in the AIEaRT compared to the sedentary groups for both

phenotypes (p < 0.001) and at 90 and 120 min in the obese group (p < 0.001).

Conclusions. Sedentary Fa/fa rats obtained the worst values for lipids and glycaemia but AIEaRT interacted on reducing this adverse metabolic status. Moreover, fasting and postprandial glucose concentrations were similar in obese-trained than in sedentary-lean rats.

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A Mediterranean diet is not enough for cardio-metabolic health: Physical activity and physical fitness are major contributors in European adolescent

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Key words: Mediterranean diet score; Moderate-to-vigorous physical activity; Body composition; lipid profile; Blood pressure; Insulin resistance; HELENA Study

Aims. To examine the impact of adherence to the Mediterranean diet on body fatness and cardio-metabolic profile and the concomitant role of physical activity (PA) and cardiorespiratory fitness (CRF) in European adolescents (n = 2340; 12.5-17.5years) participating in the HELENA-study.

Method. A Mediterranean Diet Score (MDS) was calculated after assessing dietary intake by two non-consecutive 24 h dietary recalls. PA was measured by accelerometry and CRF with the 20m shuttle run test. Cardio-metabolic risk (CMR) factor measurements included anthropometric parameters, blood lipid profile, blood pressure and insulin resistance. A CMR index and a fatness index were computed.

Results. MDS was inversely related to systolic blood pressure and PA with most CMR factors, after adjusted for energy intake and PA and for energy intake and MDS, respectively. However, associations between PA and fatness markers disappeared after adjusting for CRF. Overall, CRF was inversely related to all CMR factors also in the fully adjusted models which included MDS, energy intake and PA. Individuals with high MDS and being more physically active had the lowest score on fatness and the healthiest profile on most CMR factors (except systolic blood pressure and total cholesterol) regardless of sex, age, socioeconomic-status, parental education