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Sports regulated and lipid profile in children and adolescents with overweight

Leis R[1], Vázquez-Cobela R[1], Aguilera C[2], Bueno G[3], Olza J[2], Gil-Campos M[4], Bedoya J[1], Castro-Feijoo L[5], Moreno L[6], Gil A[2].

[1]Unit of Investigation in Nutrition, Growth and Human Development of Galicia, Pediatric Department (USC), Complexo Hospitalario Universitario de Santiago (IDIS/SERGAS), Santiago de Compostela, Spain. [2]Deparment of Biochemistry and Molecular Biology II, Institute of Nutrition and food Technology, Center for Bimedical Research (UGR), Granada, Spain. [3]Deparment of Pediatrc, Hospital Lozano Blesa. Zaragoza. Spain. [4]Pediatric Research and metabolism Unit, Reina Sofia University Hospital (IMIBIC), Córdoba, Spain. [5]Pediatric Endocrinology, Pediatric Department (USC), Complexo Hospitalario Universitario de Santiago (IDIS/SERGAS), Santiago de Compostela, Spain. [6]Deparment of Public Health. University of Zaragoza. Spain.

Introduction: Obesity is the most common nutritional disorder in the pediatric age. Decreased physical activity and increased inactivity are important factors that are involved in this pandemic. The highest prevalence of obesity in Europe is in the South.

Material and methods: 318 overweight children, age range 3-17 years (11.07±2.7), attending the Pediatric Nutrition consultation of a tertiary hospital. 42.5% are male. Anthropometry was performed and the sample was stratified according to the international standard of Cole T. Physical activity is assessed using a validated questionnaire that collected belonging to a sports team and time spent at the same. Serum cholesterol(CT) and triglycerides(TG) are determined by ADVIA 2400 and HDL-C and LDL-C by cellulose acetate electrophoresis HELENA. Análisis estadístico SPSS 19.

Objective: To study the relationship between the practice of a regulated sport and lipid profile in overweight children and adolescents.

Sample distribution by sex

	n	%
Male	135	42,5
Female	183	57,5
Total	318	

Distribution of the sample according to BMI(1)

	n	%
Overweight (p≥85 - <95)	121	38,1
Obese (p≥95)	197	61,9
Total	318	

Results:

Belonging to a sports team

	Total	Overweight	Obese	p
Yes	37,1%(n=117)	44,4%(n=52)	55,6%(n=65)	p=0,078
No	62,9%(n=198)	34,3%(n=68)	65,7%(n=130)	

Hours of sport per week

<3hours	75,8%(n=238)	35,7%(n=85)	64,3%(n=153)	P=0,158
≥3hours	24,2%(n=76)	44,7%(n=34)	55,3%(n=42)	

	Belong to a sports team					Hours of sport per week				
mg/dl		N	X	DS	p		n	X	DS	p
BMI	Yes	117	25,44	3,56	0,000	<3hrs	41	25,75	4,22	0,489
	No	198	↑ 27,14	4,00		≥3hrs	75	25,27	3,19	
Cholesterol	Yes	115	168,2	29,5	0,123	<3hrs	41	167,7	27,2	0,818
	No	198	162,7	30,9		≥3hrs	73	169,1	30,6	
Triglycerides	Yes	115	68,9	37,2	0,957	<3hrs	41	73,5	37,6	0,355
	No	198	68,7	36,8		≥3hrs	73	66,7	37,2	
HDL-c	Yes	113	↑ 48,3	11,5	0,001	<3hrs	40	46,3	10,3	0,134
	No	195	44,0	11,5		≥3hrs	72	↑ 49,7	12,1	
LDL-c	Yes	113	101,7	27,3	0,170	<3hrs	40	103,2	27,5	0,725
	No	195	97,0	29,6		≥3hrs	72	↓ 101,3	27,3	

Conclusion: Regulated sport improves lipid profile in overweight children, independently of BMI and specially by increasing HDL-c levels. The spent time in sport seem play an important role in the improving of lipid profile. Therefore the promotion of the regulated physical activity during a adequate time should form part of strategies for prevention of metabolic risk in pediatric obesity.

Referencias:

1.- Cole T. Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ 2000;320:1240.

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