

Does proximity to recreational facilities decrease the risk of both general and abdominal obesity in 6-to 10-year-old children?

Daniela Rodrigues^{1,2}, Aristides M. Machado-Rodrigues^{1,2}, Cristina Padez^{1,2}



¹ CIAS – Research Centre for Anthropology and Health, ² Department of Life Sciences, University of Coimbra, Portugal

Introduction

The build environment, including parks and other sport facilities, provide structured settings for exercise, might shape opportunities for physical activity, which may affect the development of obesity.

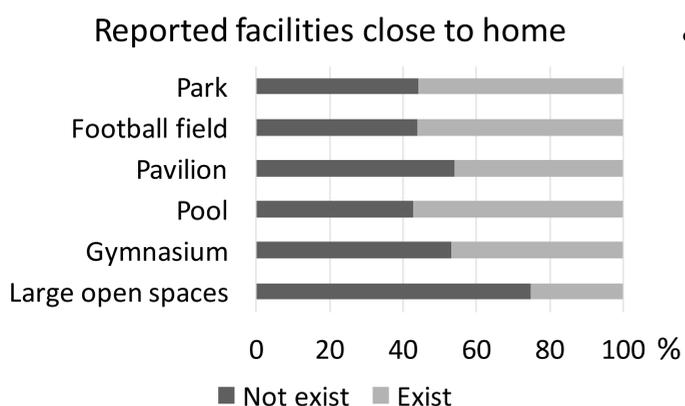
Aim

Determine if proximity to recreational facilities was associated with the risk of children having one or more obesity indicators.

Methods

Height, weight and waist circumference were collected in 793 children (51.3% girls) aged 6-10 years living in central Portugal. International Obesity Task Force (IOTF) cut-offs were used to define overweight (including obesity) and waist-to-height ratio (WHtR>0.5) was used to assess abdominal obesity. Children were classified as: 1) having no risk of obesity (normal weight + WHtR<0.5), 2) having one risk of obesity (normal weight + WHtR>0.5 or overweight + WHtR<0.5) and 3) having double risk of obesity (overweight + WHtR>0.5). Using a questionnaire, parents reported if they perceived a number of recreational facilities as 'existing' or 'not existing' in the neighbourhood. A multivariate logistic regression model (adjusted to parental education and family income) was used to observe association of childhood obesity and proximity of recreational facilities.

Results



- 13.1% of children had "one risk of obesity" (13.8% girls, 12.5% boys); 15.9% of children had "double risk of obesity" (18.3% girls and 13.4% boys).

Table 1. Factors associated with having one or double risk of obesity (model adjusted for parental education and family income; AOR=adjusted odds ratio).

Facilities close to home		One risk			Double risk		
		AOR	95% CI	p	AOR	95% CI	p
Large open spaces	Not exist	1.013	0.591;1.729	0.964	3.130	1.556;6.298	0.001
	Exist	Ref.			Ref.		
Gymnasium	Not exist	0.814	0.506;1.309	0.396	1.693	1.049;2.733	0.031
	Exist	Ref.			Ref.		
Pool	Not exist	0.981	0.606;1.589	0.938	1.312	0.828;2.080	0.248
	Exist	Ref.			Ref.		
Pavilion	Not exist	0.939	0.582;1.516	0.798	1.825	1.118;2.978	0.016
	Exist	Ref.			Ref.		
Football field	Not exist	0.897	0.551;1.459	0.660	1.730	1.084;2.762	0.022
	Exist	Ref.			Ref.		
Parks	Not exist	0.908	0.562;1.468	0.695	1.283	0.812;2.029	0.286
	Exist	Ref.			Ref.		

- The inexistence of sport facilities in the neighbourhood was not associated with the prevalence of only one obesity indicator in children, but significantly increased the odds of children having both overweight (including obesity) and abdominal obesity.

Conclusion

Children with less access to recreational facilities are more likely to experience a double risk of obesity.

Contact information:

Daniela Rodrigues. CIAS – Research Centre for Anthropology and Health, Calçada Martim de Freitas, 3000-456 Coimbra, Portugal.
rodrigues1323@gmail.com