

RELATIONSHIP BETWEEN CHILDREN'S DIETARY HABITS, SCREEN TIME AND OVERWEIGHT - ESCOLA MISSÃO CONTINENTE (EMC) PROGRAM

Margarida Gonçalves¹, Maria de Fátima Martins², Marta Gaspar², Bruno Sousa¹, Cíntia Pêgo³, Carina Rossoni¹, Ana Rito^{2,4}

¹ School of Health Sciences and Technologies, Lusófona University, Av. Campo Grande 376, 1749-024 Lisbon, Portugal

² Center for Studies and Research in Social Dynamics and Health, Avenida Padre Cruz, 1649-016 Lisbon, Portugal

³ CBIOS Lusófona's Research Center for Biosciences and Health Technologies, Av. Campo Grande 376, 1749-024 Lisbon, Portugal

⁴ WHO Collaborating Center for Nutrition and Childhood Obesity, National Institute of Health Doutor Ricardo Jorge, 1649-016 Lisbon, Portugal



Introduction

The prevalence of childhood overweight has been increasing in Portugal. This may be linked to poor dietary habits, sedentary behaviour, and excessive screen time, key modifiable risk factors for childhood overweight.

Methodology

This cross-sectional study used data from EMC's first year (2021-22). Children's weight and height were collected and classified as having overweight (incl. obesity) or not having overweight using WHO Growth Charts (5–19 years). Children's dietary habits and screen time was assessed through a family questionnaire and food frequency responses were categorized as "healthy" or "less healthy". Screen time was classified as "<2h/day" or "≥2h/day". "Less healthy" behaviors included not eating fresh fruit or vegetables daily and consuming sugary soft drinks more than 3 days per week. Screen time was classified as "less than 2



521 children (6-7 years old)

Dietary habits		Screen time
Fresh fruits and vegetables	Healthy habits	<2h/day
	Daily	≥2h/day
	Less healthy habits	
	Not daily	
Ultra-processed foods	Healthy habits	Weight status
	Less than 3 days/week	
	Less healthy habits	Having overweight
	More than 3 days/week	

Objective

This study evaluated the relationship between dietary habits, screen time and the prevalence of overweight (including obesity) in children participating in Escola Missão Continente program -CEIDSS (EMC), a national study on the impact of a school-based nutrition education program among first to fourth-grade children (2021- 2025).

Results

A 27.8% overweight prevalence was observed. Chi-Square and Fisher tests ($p < 0.05$) showed that children with ≥2h/day screen time had less healthy behavior regarding the consumption of salty snacks (7.3%) compared to those who spend less time on screens (2.4%, $p = 0.023$). Additionally, children who spend more time on screens tend to have less healthy behavior regarding vegetable consumption (50.0%, $p = 0.010$). Children with overweight showed a lower consumption of healthy fresh fruit (24.5% vs. 75.5%) and vegetable (23.1% vs. 76.9%) ($p = 0.002$).

Dietary habits	Salty snacks		p value	Vegetables		p value	Fruits		p value	
	less than 3 days/week	more than 3 days/week		daily	not daily		daily	not daily		
Screen time	<2h/day screen time	97.6%	2.4%	0.023	64.2%	35.8%	0.010	66.1%	33.9%	0.290
	≥2h/day screen time	92.7%	7.3%		50.0%	50.0%		60.4%	39.6%	
Overweight status	Having overweight	28.2%	17.6%	0.421	23.1%	35.5%	0.002	24.5%	34.1%	0.002
	Not having overweight	71.8%	82.4%		76.9%	64.5%		75.5%	65.9%	

Conclusion

There is a significant relationship between screen time, dietary habits, and overweight in primary school children. Increased screen time may relate to poorer dietary habits, while a diet rich in fruit and vegetables may lower overweight risk. These findings support future research and school-based nutrition interventions.

References