



Is Socioeconomic Status A Risk Factor For Children's Overweight And Obesity? - Mun-Si Portugal, A Community Based Program.

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Introduction

Portugal is one of the countries within the WHO European Region with higher prevalence of childhood overweight and obesity (fig.1) but not all children are affected equally by the burden of obesity and poor health¹. Based on the rationale that local governments exert an important and decisive role in counteracting childhood obesity, MUN-SI program (www.mun-si.com) was developed in Portugal². MUN-SI is an on-going Portuguese community-based program at local level which aims to promote lifestyles changes in the long-term particularly to children and families that do not have adequate resources³. The objective of this study was to address the association between socioeconomic (SE) indicators and children's nutritional status (NS) of the two rounds of the MUN-SI NS surveys (2009 and 2011).

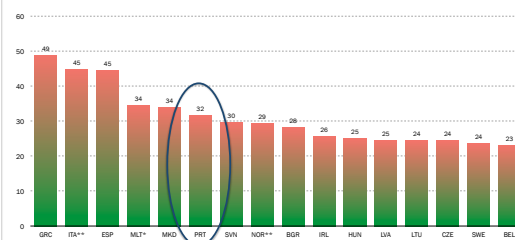


Figure 1 – Prevalence of overweight among boys aged 7 years in Europe (WHO/COSI 2010)

Methodology

- It was performed an observational **cross-sectional** study of elementary school children from five cities;
- A total of **2726** children (round 1 (R1) = 1126; round 2 (R2)= 1600) aged between **6-12 years old** were evaluated from 5 municipalities;
- Childhood overweight and obesity prevalence was assessed according to **WHO criteria**, adopted by the Ministry of Health of Portugal;
- Low SE status was defined according to 3 criteria: family income, parents occupation and education level. These SE characteristics were obtained by a self-response questionnaire;
- Statistical analysis** was performed by Z test for proportions and binary logistic regression model. Statistical significance was obtained at 0.05 level.

Results

In R1 (2009), the prevalence of overweight was 39.4% (n = 444), of which 15.8% (n = 178) were obese. In the second round (2011) similar prevalence were obtained (40.8% of overweight, in which 16.9% obese). In both rounds, 69% of the families had a low income (<1500 €). Mother's education level was mainly up to 12th grade (79%) and more than 50% of fathers had an education level up to 9th grade. Parents occupation were mainly (>45%) unqualified or semi-qualified. In R1, a family income of 0-1500 € was associated with higher obesity prevalence (OR = 2,36; IC95%: 1,11-5,00). In R2, no significant association between obesity prevalence and low family income (p=0.494) was observed. In R1, Families where the parents had a non-qualified or semi-qualified occupation had a higher probability (mother – OR= 3.5; father – OR= 3.1) to have children with obesity and again for Low educational level (mother – OR= 2.26; father – OR= 2.01)

Table 1 – Association between socioeconomic risk factors and obesity.

Family Income €/month	Round 1		Round 2	
	Obesity n (%)	OR (95% CI)	Obesity n (%)	OR (95% CI)
<1500	122 (55.0)	2.36 (1.11-5.00)	155 (68.3)	0.85 (0.53-1.36)
Occupation level (Unqualified or semiqualfied)				
Mother	93 (63.3)	3.49 (1.24-9.82)	106 (46.9)	0.97 (0.72-1.29)
Father	105 (67.3)	3.14 (1.23-7.99)	104 (47.9)	0.86 (0.64-1.15)
Low educational level (primary or middle school)				
Mother	104 (61.2)	2.26 (1.41-3.62)	118 (44.7)	0.81 (0.59-1.12)
Father	118 (72.4)	2.01 (1.23-3.30)	134 (54.5)	0.78 (0.56-1.10)

Nutritional Status (Who criteria)

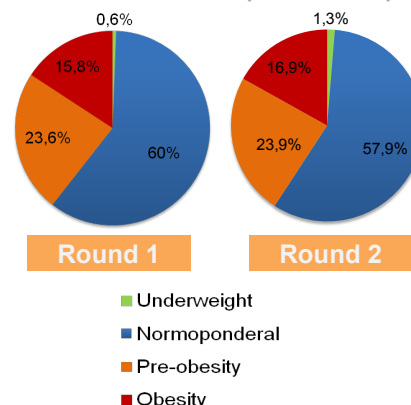


Figure 2 – Nutritional Status prevalence in the 5 participant municipalities.

Conclusion:

- Families where the parents had a **non-qualified or semi-qualified occupation and Low education level** had a **higher probability** to have children with **obesity** compared to those with high professional occupation;
- It was observed that low **family income** is an important **risk factor** to development of **childhood obesity in Portuguese population**;
- These results support that **further intervention** is needed on **Portuguese families with low socioeconomic status**.

References

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