MUNSI
A Community-based programme

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BACKGROUND

60 million children in 2020³
Associated with adverse metabolic effects⁴
Obesity have reached epidemic proportions⁵
3.5% of total expenditure for health was the economic burden related to obesity⁶

Unhealthy diets and physical inactivity as key risk factors

Estimated global deaths

From 2005 to 2060

Schools:
- Promote healthy dietary and physical activity patterns
- Potential access point for engaging parents and community members in preventing their own and school-age children's

Lifestyle interventions addressing diet and physical activity are considered a first-line intervention

Partnership between the Ministry of Health, University Atlântica and the Municipalities of Fundão, Montijo, Oeiras, Seixal and Viana do Castelo.

2.8 million people die each year as a result of overweight and obesity⁷
35 million overweight children in developing countries and 8 million in developed countries⁸
92 million were at risk of overweight

Portugal has 10.7 million inhabitants¹²
- 13.8% of adults¹²
- 14.8% 7-9 years old¹²

4 Onis M, Blössner M, Borghi E. Global prevalence and trends of overweight and obesity among preschool children. American Journal of Clinical Nutrition 2010;92:1257–64

Countries and 8 million in developed countries

Partnership between the Ministry of Health, University Atlântica and the Municipalities of Fundão, Montijo, Oeiras, Seixal and Viana do Castelo.

Estimated global deaths
In order to control and reverse Childhood Obesity, community-based programmes seems to respond effectively to the childhood obesity trends.

Methodology

- Local and community based and integrated approach
- Centered around children and their school environment

3 stages (2008 till 2011):
1. Nutritional status evaluation, relating with socioeconomic, physical activity, demographic and environmental health dimensions
2. Children health promoting and lifestyle intervention
3. Revaluation, repeating the first protocol.

Nutritional Status - Tools

Applied by local trained examinees:
- Anthropometric parameters (weight + height)
- After snack time

Underwear
Gym clothes
Light clothes
Heavy clothes

Based on COSI child questionnaire

1st STAGE: Nutritional Status assessment - height and weight → BM [CDC criteria, 2000] – Child Questionnaire + Family Questionnaire

2nd STAGE: Health promotion and educational actions, focus on school environment
- Material
- Activities
- Trainers

3rd STAGE: Revaluation, repeating the first protocol - Child Questionnaire + Family Questionnaire
**Nutritional Status**

- **Total Sample (n=3851)**
  - Overall: 32.1% Overweight
  - Gender breakdown:
    - Girls: 40.5% overweight
    - Boys: 24.6% overweight
  - Obesity prevalence by gender:
    - Girls: 14.9%
    - Boys: 9.3%

**Results**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>Obesity</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family size (0-2)</td>
<td>570</td>
<td>50</td>
<td>2.7 (2.1-3.4)*</td>
</tr>
<tr>
<td>Family mobility (sibling present)</td>
<td>649</td>
<td>60.6%</td>
<td>1.9 (1.3-2.6)**</td>
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<tr>
<td>Hours of sleep (≥ 9 hours)</td>
<td>289</td>
<td>30.1%</td>
<td>1.9 (1.3-2.6)**</td>
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<tr>
<td>Breastfeeding (more than 1x/day)</td>
<td>285</td>
<td>30.9%</td>
<td>1.9 (1.3-2.5)**</td>
</tr>
<tr>
<td>Micronutrients (adequate intake)</td>
<td>136</td>
<td>34.3%</td>
<td>2.4 (1.5-2.9)*</td>
</tr>
<tr>
<td>Energy intake (more than 1x/day)</td>
<td>944</td>
<td>51.5%</td>
<td>1.8 (1.6-2.2)*</td>
</tr>
</tbody>
</table>

* p<0.05
** p<0.01

**Key points**

- Raise awareness of the importance and benefits of healthy lifestyle
- Educate whole children community
- Conduct local healthy programmes and initiatives
- Build capacity to implement local programmes
- Create supportive environments
- Encourage and engage stakeholders

**Innovative strategy model that effectively reaches the children population through its schools or family environment**

**Multiple Themes**

- Portuguese Food Guide
- Healthy Food and Nutrition
- Healthy Breakfast
- Drink Water
- Physical Activity
- Food Safety

**Thank you for your attention**

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