Demographic variables and childhood obesity community-based program in Portugal

Patricia Baptista1, Ana Lucia Silva1, Carlos Ramos1, Maria Ana Carvalho1 and Ana Rito2,3
1 University Atlântica, Oeiras, Portugal, 2 National Institute of Health Dr. Ricardo Jorge, Lisbon, Portugal

BACKGROUND: It is well known that obesity is one of the most Public Health’s concerns especially among children. The prevalence of overweight and obesity have been increasing consistently throughout the European Union (EU), affecting everyday a higher number of children and adolescents. Recent data reports that childhood obesity in Portugal increased in the last years, representing nowadays 30.2% of overweight and 14.6% of obesity. Family, as the primary children source of social learning, habits and behaviors' influence and exposure have shown a basic determinant to food and physical activity children' choices1,2,3. The role of family and parental factors in childhood obesity suggests that single-parent, no siblings and small family size are associated with larger increases in Body Mass Index (BMI)4,5.Family provides social and interpersonal support that is instrumental in shaping and maintaining eating and physical activity behaviors, community-based health programmes focus also on family educational policies and strategies have been developed in some European Countries, showing relevant impact on health patterns and a decrease in childhood obesity prevalence6. Based on the recognized success of these programmes we developed the community-based programme defined as Muni in order to identify the main factors behind the Portuguese nutritional children status and create an healthy community life style.

METHODS: This study is framed from a longitudinal municipal project (MUNSI), which included 3173 children (6-9 years old) from 167 public schools conducted on five municipalities (Viana do Castelo, Fundão, Oeiras, Seixal and Montijo). Childhood nutritional status was assessed by anthropometric parameters (weight and height) considering the Centers for Disease and Control Prevention (CDC, 2000) growthcharts criteria percentiles of BMI. Demographic condition were collected by a self-response family questionnaire. Subdivision by residence area were assessed by Territorial Institute of Statistics criteria into Predominantly Urban Areas (APU), Moderately Urban Areas (AMU) and Predominantly Rural Areas (APR) (INE, 2004). The Odds Ratio was calculated with a 95% Confidence Intervals.

RESULTS
The prevalence of overweight (pre-obesity and obesity) (BMI≥P85) was 32.1%, where 14.3% were obese (BMI≥P95) (graphic 1), distributed equally throughout boys and girls (14.4% and 14.1%, respectively). Children who lived in urban areas showed higher obesity prevalence (14.4%) compared with those residing in rural areas (13.3%) associated also with higher odds rate (OR=1.12; CI:0.8-1.6) however with no statistic significance. According to family household, small families size showed higher obesity prevalence (17.1%) with a OR=1.6 (CI:1.1-2.3) statistically significant (p<0.05), compared to families who had more elements (table 1).

<table>
<thead>
<tr>
<th></th>
<th>Total (n )</th>
<th>Obesity</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Urban areas</td>
<td>1882</td>
<td>317</td>
</tr>
<tr>
<td>Family size (3 elements)</td>
<td>572</td>
<td>98</td>
</tr>
</tbody>
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Table 1

CONCLUSION
Environmental factors such the urban areas and family household should be considered as important contributing factors for childhood obesity. To better understand the epidemiology of these factors future research should attempt to quantify and elucidate them more precisely. The Muni as a community-based programme is an effective approach on the childhood community leading to a better understanding of the obesity factors. These knowledge may identify additional potential effective interventions at local level in order to reverse the obesity trends in Portuguese children and promote a future healthy life style.

REFERENCES
2. CDC. 2000. Growth charts. CDC, Atlanta, Georgia