

# Childhood Overweight & Obesity

## Rafael Ramírez Escuela Primaria

### Assessment of Children ages 6–12

Puente de Cillas, Mexico

#### Background

- Population: 2,382 (En Nuestro Mexico, 2016)
- Small, rural town in Guanajuato, Mexico

#### Unique Community Characteristics

- Limited access to healthy foods
- Central health center (Centro de Salud)
- Community recreation center
- Free primary/preventative healthcare for all community members

#### Significance of the problem

**Childhood obesity** is complex and rapidly growing global health problem greatly affecting the population of Mexico, can have numerous adverse health effects, and contributes to increased chronic diseases in adulthood (WHO, 2016).

33% of children in the United States are obese (American Heart Association, 2014).

Hispanics make up 12% of the population in Jackson County, Oregon (U.S. Census Bureau, 2014).

In 2012, the childhood obesity prevalence in Mexican children ages 11–19 was **34.9%**, ranking Mexico as **number one in childhood obesity** (Instituto Nacional de Salud Pública, 2012).



#### Goals

- Evaluate the elementary school children's current understanding of nutrition and their health statuses
- Understand barriers to BMI reduction and improved family nutrition knowledge
- Reinforce school's efforts to reduce BMIs, through presenting primary and secondary data

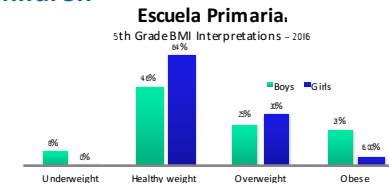
#### Assessment methods

- Secondary data: WHO, World Factbook, Instituto Nacional de Salud Pública
- Windshield & walking survey of school
- Key informant interviews: teachers, director, delegate, health center nurse
- 5<sup>th</sup> grade BMIs & nutrition survey
- Parent's nutrition knowledge survey

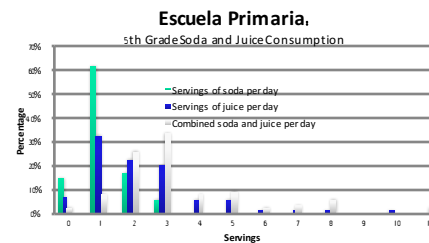
#### SWOT Analysis

| Strengths   | Weaknesses  |
|---|---|
| <ul style="list-style-type: none"> <li>High attendance rates</li> <li>Dedicated faculty</li> <li>Family involvement</li> <li>Nutrition education curriculum</li> <li>Collectivist culture</li> <li>Physically active children</li> <li>Minimal family dysfunction</li> <li>Positive school reputation</li> <li>Parent readiness to learn</li> </ul> | <ul style="list-style-type: none"> <li>Many working families</li> <li>Single parent households</li> <li>No supermarket</li> <li>Few fruit &amp; vegetable stores</li> <li>Culturally barriers to health</li> <li>Low literacy rates</li> </ul>                                |
| Opportunities   | Threats   |
| <ul style="list-style-type: none"> <li>Water availability on campus</li> <li>Soda ban on campus</li> <li>Centro de Salud services</li> <li>Escuela de Familia program</li> <li>Availability of nutritionists</li> </ul>   | <ul style="list-style-type: none"> <li>Sugary drink consumption</li> <li>Limited transportation</li> <li>High BMIs of 5<sup>th</sup> grade students</li> <li>High BMIs of children in Mexico</li> <li>Non-potable water in community</li> <li>Low vegetable intake</li> </ul> |

#### Children



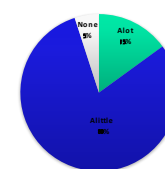
- 5<sup>th</sup> grade girls overweight or obese 2016: 39%
- 5<sup>th</sup> grade boys overweight or obese 2016: 39%
- Commonly consumed foods: carbohydrates, grains, sugary snack foods, meat
- Sweet drinks consumed on average: 3.3/day
- Growth stunting, overweight and obesity are twice as likely to occur in indigenous populations in Mexico (Malina et al., 2011).



- Mexico is the world's number one consumer of soda, consuming 46 gallons each year per capita (Kirkpatrick, 2015).

#### Families

**Escuela Primaria.**  
Parent's Nutritional Knowledge



- 85% of mothers prepared food at home for their child, 15% purchased pre-made
- 100% of mothers showed interest in furthering their nutrition education
- 85% of mothers reported no barriers to attending nutrition classes, 15% reported lack of time as a barrier

#### Recommendations

- Continue current school efforts of education to children and families, increasing water consumption and banning sodas
- Educate that children ages 9–19 should consume daily portions as follows: 4–5 vegetables, 2–5 fruits, 10–12 grains, 1–2 legumes, 4–5 animal proteins and 1–2 servings of dairy (Mexican Secretaría de Salud, 2016)
- Local and statewide campaigns to decrease consumption of packaged products and sugary drinks and to consume a balanced diet must be emphasized.
- Connect families of school children to existing community resources
- Rationale.** School-based interventions including teacher education, supportive environments, nutrition curriculum, physical education and parental nutrition classes results are effective in decreasing BMIs and improving eating behaviors (Barcardi-Gascon et al., 2012)

#### Conclusions

- Puente de Cillas is actively utilizing an ecological model to target childhood obesity
- Fifth grade BMI data shows obesity and overweight is still an issue indicating the influence of culture, food availability, and upstream structural determinants on this national population health epidemic
- Next steps.** evaluate cultural barriers and areas for policy change, parent's learning styles and efficacy of classes being offered.



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