**Assessment of Children ages 6–12**
Puenteceillas, Mexico

**Background**
- Population: 2,382 de Nuestra 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 13% of the population in Jackson County, Oregon [US Census Bureau, 2014].

In 2016, the childhood obesity prevalence in Mexican children ages 11–17 was 34.6%, ranking Mexico as number one in childhood obesity [Instituto Nacional de Salud Publica, 2017].

**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 Publica
- Windshield walking survey of school
- Key informant interviews: teachers, director, delegate, health center nurse
- 5th grade BMIs & nutrition survey
- Parent’s nutrition knowledge survey

**SWOT Analysis**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tr>
<td>High attendance rates</td>
<td>Many working families</td>
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<tr>
<td>Dedicated faculty</td>
<td>Single parent households</td>
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<td>Family involvement</td>
<td>No supermarket</td>
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<tr>
<td>Nutrition education curriculum</td>
<td>Few fruit &amp; vegetable servings</td>
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<td>Collectivism</td>
<td>Culturally barriers to health</td>
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<td>Physically active children</td>
<td>Low literacy rates</td>
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<tr>
<td>Minimal family dysfunction</td>
<td>Positive school reputation</td>
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<tr>
<td>Positive school reputation</td>
<td>Parent readiness to learn</td>
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<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
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<tr>
<td>Water availability on campus</td>
<td>Sugary drink consumption</td>
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<tr>
<td>Soda ban on campus</td>
<td>Limited transportation</td>
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<tr>
<td>Centro de Salud services</td>
<td>High BMIs of 5th grade students</td>
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<td>Escuela de Familia program</td>
<td>High BMIs of children in Mexico</td>
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<td>Availability of nutritionists</td>
<td>Non-potable water in community</td>
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<td>Low vegetable intake</td>
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**Children**

- 51st grade girls overweight or obese 20.18%
- 51st grade boys overweight or obese 20.16%
- 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 [Saldana et al., 2016]

**Families**

- Mexico is the world’s number one consumer of soda, consuming 44 gallons each year per capita [Kingrath, 2011]

**Recommendations**

- Continue current school efforts of education to children and families, increasing water consumption and banning sodas
- Educate that children ages 1–9 should consume daily portions as follows: 4–5 vegetables, 2–5 fruits, 4–9 grains, 1–2 legumes, 4–5 animal proteins and 2 servings of dairy [Mexican Secretaria de Salud, 2010]
- 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 in effective decreases in BMI and improving eating behaviors [Barzansky-Garcia et al., 2012].

**Conclusions**

- Puenteceillas 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.

**Acknowledgements**

Trish Kukhan, RN/BSN
Rachael Richardson, RN/BSN
Teresa Ramirez, RN/BSN
Miguel Puentecillas, Mexico
Laura Ramirez, RN/BSN
Alisha Kerr, RN/BSN
Kim O’Rourke, RN/BSN
Sadie Knotts, RN/BSN

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