Tackling childhood obesity in Chile – how the IAEA support since 20 years has helped to address the problem and contributed to halting the rise in childhood obesity in pre-school children

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The Historical context

1960-2000: Chile underwent rapid demographic, epidemiological and nutritional transitions; higher income and major dietary changes (high sugar & high fat)

Children < 6 years old

Pregnant Women
Major challenges

- Stunted children considered underweight
  - Receive energy-rich foods
- Micronutrient deficiency! Iron and zinc!
- Nutritional transition
  - Consumption of diets high in fat and sugar
  - Insufficient physical activity

↑ Overweight & obesity

Lack of capacity and proper indicators to assess body composition nutritional status and impact of interventions
Actions

- Exclusive breastfeeding practice birth to 6 mo (paid maternity leave)
- Iron and zinc fortification of powdered cow’s milk (6-24 m old children)
- Rigorous growth monitoring including length and height
- Dietary diversification in nursery school meals
How the IAEA contributed to address the challenges and inform the actions

<table>
<thead>
<tr>
<th>Year</th>
<th>Activities</th>
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<tbody>
<tr>
<td>1997</td>
<td>IAEA started working with University of Chile, Institute of Nutrition and Food Technology (INTA) to address malnutrition</td>
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<td>1998</td>
<td>Energy Metabolism and Stable Isotopes Laboratory (EMSIL) was established with support from IAEA</td>
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<td>1999 – 2004</td>
<td>• Impact of iron fortified food on anaemia in children (RLA7008)</td>
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<td></td>
<td>• Body composition and energy expenditure in children attending day care centres (RLA7008)</td>
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<td>2005 – 2009</td>
<td>• Reduction of childhood malnutrition (RLA6052)</td>
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<td></td>
<td>• Early diagnosis of <em>Helicobacter pylori</em> infection (RLA6054)</td>
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<td>2007 – 2012</td>
<td>Prevent and control obesity in Latin America (RLA6059)</td>
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<td>2009 – 2015</td>
<td>Double burden of malnutrition (RLA6064)</td>
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<td>2012 – 2015</td>
<td>Breast milk intake and body composition (RLA6071)</td>
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<td>2014 (ongoing)</td>
<td>Early diagnosis of sarcopenia (RLA6073)</td>
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Day Care Centres for pre-school children

- IAEA nuclear techniques identify high energy intake and physical inactivity
- Provision of nutritious foods and early stimulation
- Physical activity programme was designed and included into the curriculum
- Obesity rate in preschool children was reduced from 10.7% in 2001 to 8.4% in 2009

Provision of nutritious foods and early stimulation

Obesity rate in preschool children was reduced from 10.7% in 2001 to 8.4% in 2009
Conclusions

• **Lessons** learned from the IAEA-supported project were adopted by several neighbouring countries

• However, **obesity** in children remains a major challenge in Chile

• **Stunting** has decreased to 1.8% (children < 5) while **obesity** prevalence is 24% (children 1-6 years)

• More needs to be done; **nuclear techniques will be needed to achieve effective interventions**
Thank you!