Regulatory efforts in Mexico to prevent the double burden of malnutrition.
Mortality attributable to DIABETES:
National epidemiologic NCD alert declared in 2016

9.34%
Double-burden of malnutrition among the 14 most populated countries in the world

![Graph showing the double-burden of malnutrition among the 14 most populated countries in the world. The graph plots the percentage of stunting in children (<5y) against the percentage of overweight in adults, with countries represented by dots. The x-axis is labeled % Overweight (adults), and the y-axis is labeled % Stunting (<5y). The countries are marked with their respective abbreviations: Bangladesh, Brazil, China, Ethiopia, India, Indonesia, Japan, Nigeria, Pakistan, Philippines, Russia, Vietnam, Mexico, USA. The countries are color-coded based on their Human Development Index (HDI) levels: LOW, MEDIUM, HIGH, VERY HIGH.]
Higher relative increase of Acute Myocardial Infarction (AMI) and Diabetes (DM) mortality in less developed regions of Mexico (1980-2002)

Trends in prevalence of malnutrition in children <5y in Mexico:

Steady decrease in undernutrition during the last 30 years
Higher stunting and obesity in children from the less developed region*

<table>
<thead>
<tr>
<th>Region</th>
<th>Stunting</th>
<th>Ob/Owt</th>
</tr>
</thead>
<tbody>
<tr>
<td>More developed region</td>
<td>11.4</td>
<td>8.4</td>
</tr>
<tr>
<td>Less developed region</td>
<td>13.4</td>
<td>7</td>
</tr>
</tbody>
</table>

* Children <5y. ENSANUT 2016

Cuevas L et al, SPM 2018
The Double-burden of malnutrition is decreasing in Latin America

A recent study estimated Double-burden of malnutrition in 6 countries of Latin America finding a lower than expected risk of concurrent child stunting and maternal overweight ¹

In Mexico²; at the household level:
- Stunting <5y and Obt/ob in mother: 8.4%
- Individual level
  - (<5y): 1% stunting plus owt
  - Women: 7.6% anemia plus owt

Prevalences lower than expected

¹ Rivera JA, et al, AJCN, 100, (6) 2014, 1613S–1616S
² Kroker-Lobos MF et al, AJCN, 100, (6) 2014, 1652S–1658S
... however, the economic costs in Mexico are significant

<table>
<thead>
<tr>
<th>Costs</th>
<th>Chile</th>
<th>Ecuador</th>
<th>México</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>385</td>
<td>1,666</td>
<td>7,338</td>
</tr>
<tr>
<td>Education</td>
<td>-</td>
<td>27</td>
<td>151</td>
</tr>
<tr>
<td>Productivity</td>
<td>108</td>
<td>2,651</td>
<td>21,341</td>
</tr>
<tr>
<td>Total</td>
<td>493</td>
<td>4,344</td>
<td>28,830</td>
</tr>
<tr>
<td>% of GNP</td>
<td>0.20%</td>
<td>4.30%</td>
<td>2.30%</td>
</tr>
</tbody>
</table>

Estimated Cost of Double-Burden of Malnutrition in 3 Latin American Countries*

- Undernutrition: $407 millions USD - 0.03% GNP
- Obesity: $13,157 millions USD - 1.0% GNP

* USD millions
Government reductions in expenditure for NCDs in Mexico (2012-2018)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Total health budget (billion USD)</th>
<th>NCD Prevention &amp; control (million USD)</th>
<th>% NCD Prevention &amp; control of total health budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>8.6</td>
<td>19.7</td>
<td>0.23</td>
</tr>
<tr>
<td>2013</td>
<td>11.6</td>
<td>25.7</td>
<td>0.22</td>
</tr>
<tr>
<td>2014</td>
<td>11.5</td>
<td>27.5</td>
<td>0.24</td>
</tr>
<tr>
<td>2015</td>
<td>9.6</td>
<td>23.0</td>
<td>0.24</td>
</tr>
<tr>
<td>2016</td>
<td>7.8</td>
<td>20.0</td>
<td>0.26</td>
</tr>
<tr>
<td>2017</td>
<td>6.9</td>
<td>19.1</td>
<td>0.28</td>
</tr>
<tr>
<td>2018</td>
<td>6.5</td>
<td>21.1</td>
<td>0.32</td>
</tr>
</tbody>
</table>

* USD (adjusted for inflation)
Priority interventions to tackle the double-burden of malnutrition in Mexico:

- Improve access to clean potable water
- Improve breastfeeding practices
- Refine/increase soda and junk-food taxation
- Warning front-of-pack labeling
- Regulation of marketing to children
- Improve the food environment around schools
- Stronger preventive services
TAXING SODA, SAVING LIVES

MEXICO'S SURCHARGE ON SUGARY DRINKS IS THE REAL THING
Evaluation of soda tax policy in Mexico: Sustained reduction in SSBs purchases

- 2014: purchases ↓ 5.5%
- 2015: reductions reached 9.7%
- 2014-2015: average ↓ 7.6%
  - -5.1 Liters/capita/year

Colchero MA, et al. Health Affairs. 2017; 36(3)
Projected impact of the 10% soda-tax in the next 10 years

- ↓ 190,000 diabetes cases
- ↓ 20,000 strokes and AMI
- ↓ 19,000 deaths

Considering only the effect on diabetes, this policy will decrease health expenditures by $983 thousand USD.
Marketing targeted to children affects their preferences and their diet quality

“Children throughout the Americas are subject to pervasive and unrelenting publicity for foods of little or no nutritional value, high in fats, sugars, or salt. Constant advertising of such nutrient-poor, calorie-rich foods in diverse communications media influences children’s food preferences and consumption patterns”

OPS/PAHO, 2011
Marketing directed at children in the food environment
Progress in marketing to children regulation in Chile:

Product in Chile:
- Use of cartoon characters is prohibited ✓
- Clear, visible warning labels ✓
- Misleading front of pack labeling system (GDAs)
- GDA- sugar based on 92g a day

Product in México:
- Gifts ✗
- Use of cartoon characters ✗
- Endorsed by sports leagues ✗
Marketing of unhealthy F&B associated with sports and active transportation
Vulnerable low-income population in Mexico exposed to misleading marketing and commercial practices
School environment: Accessibility of unhealthy food & lack of water fountains
Government actions in the school environment

- ↑ Water availability
- ↑ Physical activity
- ↓ Food marketing inside schools
- ↑ Quality of food inside schools

Secretaría de Salud. Lineamientos técnicos para el expendio o distribución de alimentos y bebidas en los establecimientos de educación básica, 2010
Characterization of food/beverage promotion directed at children

Argentina, Brasil, Chile, Costa Rica, and Mexico*

General Objective:

1) Identify how marketing strategies for food and beverages targeted to children contribute to purchases of unhealthy food
2) Identify how children’s parents may contribute to purchases of unhealthy food

Review

Monitoring the availability of healthy and unhealthy foods and non-alcoholic beverages in community and consumer retail food environments globally

C. Ni Mhurchu1, S. Vandezande2, W. Waterlander3, L. E. Thornton2, B. Kelly4, A. J. Cameron5, W. Snowden6,6 and B. Swinburn2,6 for INFORMAS*

Funded by:
Retail Food Environments in Latin America

High availability of unhealthy food marketing to children at point-of-purchase

Targeting children with product placement

IMAGES

PRICE DISCOUNTS

CARTOON CHARACTERS ON PACKAGES

GIFTS

INCENTIVES
Healthy foods are not as expensive as perceived by consumers...

Mango 1kg - $1.35 USD

Mandarin 2kg - $1 USD
Healthy foods are not as expensive as perceived by the consumers...

4 kilograms of watermelon costs $1.04 USD
GIFTS AND PRICE INCENTIVES:
COKE BUCKET WITH 6 LITERS OF SODA $1.3 USD
high income super market in Mexico
How can we help consumers make healthier food choices?

**CHILE:**

**WARNING LABEL SYSTEM**
- Easy to understand
- Developed by academic experts

**MEXICO:**

**GDA LABEL SYSTEM**
- Misleading
- Developed by food industry
How many consumers can interpret the GDA symbols?
How many consumers can interpret the Chilean FOP symbol?

CHILE’S WARNING LABEL IS WELL UNDERSTOOD BY CHILDREN
Mexican expert group position on front-of-pack labeling

FOPL based on national & international health recommendations, WHO, PAHO, the National Academy of Medicine, & nutritional recommendations for Mexicans from INCMNSZ.

A conflict-of-interest free group with transparency criteria

A simple, understandable warning label

GDA does not work; an effective system is needed

FOPL label ONLY for harmful ingredients

Consistent nutrient profile for public policy

Salud Pub Mex, 2018:60;4:479-486
Conclusions

Mexico, like other countries in Latin America, has a relatively low prevalence of the double burden of malnutrition.

However, being one of the most populated countries in the world, this condition generates an enormous burden.

The solution is complex but there is consensus on diverse priority policies that are likely to be implemented with this new administration:

- Water sanitation
- Breast-feeding promotion
- Soda and junk food taxation
- Front of pack labeling
- Marketing regulation
- Regulations around schools for healthy eating and active transportation.
Colaborators:
Mariel White, Estefanía Rodríguez, Sonia Hernández, Ivonne Ramirez

Thank you!