The Global Obesity Epidemic

Rebecca Stoltzfus, PhD
Professor
Division of Nutritional Sciences
Cornell University
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Outline

• The Problem
• Causes
• Focus on children
• Interventions

Overweight and obesity in selected countries
% prevalence, from WHO Global Infobase
https://apps.who.int/infobase/report.aspx?iso=USA&rid=111&goButton=Go
Three transitions:

- **Nutrition transition:** increasing consumption of foods high in fats and sugars, declining intake of cereals, intake of fruits and vegetables remains inadequate.

- **Demographic transition:** declining fertility rate and longer life expectancy.
Three transitions:

- **Nutrition transition**: Increasing consumption of foods high in fats and sugars, declining intake of cereals, intake of fruits and vegetables remains inadequate.
- **Demographic transition**: Declining fertility rate and longer life expectancy
- **Epidemiologic transition**: Declining infectious disease and increasing non-communicable diseases (NCDs)
Nutrition transition has been extremely rapid in China

Dietary transitions that took more than 5 decades in Japan have occurred in less than 2 decades in China. Chopra et al., Bull WHO 2002.

By early 1990’s, obesity consumed 2.7% of total health care expenditures of developed countries

(lobstein et al., IOTF task force 2004)

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Estimated direct costs</th>
<th>National health care costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>1998/99</td>
<td>AU$64.4 billion</td>
<td>&gt;2%</td>
</tr>
<tr>
<td>France</td>
<td>1992</td>
<td>FF12 000 million</td>
<td>2%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1981-90</td>
<td>guilders 1000 million</td>
<td>4%</td>
</tr>
<tr>
<td>USA</td>
<td>1990</td>
<td>US$468 000 million</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Source: WHO (16).

Phases of the nutrition transition


3. Increasing consumption of F&B, animal protein, increasing inactivity.
5. Awareness of benefits of balanced diet and activity. Healthy behavior adapted initially by affluent educated people.

THE BIG QUESTION:
How to promote economic growth AND prevent the undesirable health effects of the nutrition transition?

Causes
Processes of globalization that are critical to the nutrition transition

• Liberalization of international food trade


Processes of globalization that are critical to the nutrition transition

• Liberalization of foreign direct investment
  – FDI in developing countries increased 6-fold from 1990-2000, faster than GDP or trade.
  – Now the largest source of external financing for developing countries.


Processes of globalization that are critical to the nutrition transition

• Emergence of global agribusiness and transnational food companies
  – TFC’s (e.g. McD’s and KFC): US $5.7 billion in 1998


Processes of globalization that are critical to the nutrition transition

• Retail restructuring (esp. transnational supermarkets)


Processes of globalization that are critical to the nutrition transition

• Global food advertising and promotion:
  – Globalization of: TFC’s + ad/marketing agencies + communication technologies


Case study: Mexico

• NAFTA (1994) liberalized foreign investment

Case study: Mexico

- NAFTA (1994) liberalized foreign investment
- Between 1995 and 2003, sales of processed foods (e.g. soft drinks, snacks, baked goods) expanded by 5-10% per year
- Transnational food retailers 55% of all food sales in Mexico in 2007

Major Causes of the Obesity Pandemic

Popkin 2009 (assigned reading)

- Human innate preferences for fat and sugar.
- Thus, higher incomes lead to higher fat and sugar purchases.
- Lower food prices, especially vegetable oil.
- Globalization/centralization of the media to promote certain aspects of food culture.
- Technological factors that affect work and leisure, productivity and effort.
- Other changes in household purchasing patterns and time, e.g. meals eaten outside of home.
Is vegetable oil the major driver?

"The nutrition transition in China has been based until now on greatly increased domestic production and imports of edible oil, and not on imports of Western foods and a Western way of eating. The late stages of the nutrition transition in Japan are characterized by greater consumption of meat and milk products and increased imports of processed foods." p. 42 Drewnowski & Popkin Nutrition Reviews 1997.

![Graph showing FAO national food balance data](image)

What’s the story on edible oil?

- **Production:**
  - World oil crop production (soybean, canola, palm) increased by >60% from 1990-2003.
  - Growth concentrated in Latin America and Asia:
    - China: 2-fold increase
    - Brazil: 50% increase (now 2nd largest producer and exporter)
    - Argentina: 2-fold increase (world's largest exporter)
    - Malaysia: 66% increase

- **Consumption in the same period:**
  - US & Western Europe: 25% increase
  - India: 50% increase
  - China: 2-fold increase

*"Today, prices of edible oils in India are now more affected by soybean output in Argentina, Brazil and the US than by domestic production." p. 5, Hawkes.

![Graph showing increased supply + trade liberalization](image)

Increased supply + trade liberalization = cheap edible oil

Pre-WTO real prices of select food items in China, 1991-2000


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• In 2008, we passed a milestone, with >50% of the world’s people living in cities.
• Apart from Latin America and the Caribbean, which have stabilized, developing countries are experiencing the fastest rate of urbanization worldwide.
• Of the global regions, SSA is the least urbanized, but has the fastest rate of urbanization.


Rural/urban disparity greatest in African data (remember: Opposite direction in US)

Source: Garrett & Ruel, IFPRI 2003