Health Warning Labels with Pictograms in Central America: Results from Honduras and Nicaragua

Ernesto M Sebrié¹, Essie T Torres², James F Thrasher³, Dora M Oliva⁴, Beatriz Champagne, K Michael Cummings, and David Hammond⁶

1. Roswell Park Cancer Institute
2. East Carolina University
3. University of South Carolina and National Institute of Public Health of Mexico
4. InterAmerican Heart Foundation
5. Medical University of South Carolina
6. University of Waterloo
Core support provided by the U.S. National Cancer Institute (P01 CA138389)

Core support provided by the Canadian Institutes of Health Research (MOP-115016)
INTRODUCTION

Cigarette labeling policies in most Latin American countries began to change after the adoption of the WHO FCTC in Feb. 2005.

NICARAGUA

BAT

PMI

Fumar es dañino para la salud
GOALS

1. To test the most impactful content of 28 pictorial warning labels related to:
   - Health effects
   - Environmental effects
   - Socio-economic impact

2. To determine what size is the most effective.
METHODS

• Parallel experimental studies were conducted in five Central American countries: El Salvador, Guatemala, Honduras, Nicaragua, and Panama.
• Mall intercept recruitment technique
• Subjects were recruited from 2 different local public venues (e.g., mall, market, or equivalent) in the capital city of each of the countries.
DATA COLLECTION

• Eligible subjects answered a 30 minutes face-to-face survey (computer based: WinCati software).

• Inclusion Criteria:
  • Legal resident of the country
  • Able to speak and read in Spanish
  • Smokers (18 & older)
  • Non-smokers (aged 18-24)
  • Male & female
PROTOCOL

• **Part 1:**
  Demographics, smoking status, and knowledge about health warning labels.

• **Part 2:**
  Participants were shown in random order 24 cigarette mock-ups with different pictorial warnings and asked to rate their effectiveness using a 10-point scale (1=not at all; 10=extremely) in 5 domains (attention, credibility, would make smokers want to quit, would prevent non-smokers from starting to smoke, and overall effectiveness).
PICTOGRAMS TESTED

GROUP 1
Las compañías de tabaco son culpables en toda la cadena de producción.

¡PELIGRO!

Fumar causa una muerte lenta y dolorosa.

¡CUIDADO!

Las compañías de tabaco contribuyen al cáncer de pulmón de los consumidores.

¡PELIGRO!

Fumar causa derrame cerebral.

¡PELIGRO!

Fumar causa cáncer de la laringe.

¡PELIGRO!

Fumar causa impotencia sexual.

¡PELIGRO!

Fumar causa pérdida de dientes.

¡PELIGRO!

Fumar causa enfermedades y enfermedades.

¡PELIGRO!

El humo de tabaco es mortal a largo plazo.

¡CUIDADO!

Fumar causa asma en los niños.

¡PELIGRO!

Fumar causa impotencia sexual.

¡CUIDADO!
SOCIOECONOMIC IMPACT: CHILD LABOR & POVERTY

ENVIRONMENTAL IMPACT: AGROTOXICS & deforestation

El uso de tabaco CAUSA POBREZA
LAS COMPANÍAS DE TABACO SE BENEFICIAN DEL TRABAJO INFANTIL

¡CUIDADO!

Las compañías de tabaco contribuyen al envenenamiento de los cultivadores

¡CUIDADO!

Las compañías de tabaco son culpables de la tala de árboles
CIGARETTE MOCKUPS

Top

Bottom
Survey at Universidad Nacional Autónoma
(Tegucigalpa, Honduras- March 2011)
Survey at Mercado Mayoreo
(Managua, Nicaragua- March 2011)
RESULTS

Data were collected from:
- 441 Hondurans: 204 smokers and 237 non-smokers; 52% males; average age 21, and
- 456 Nicaraguans: 209 smokers and 247 non-smokers; 54% males; average age 20.
Effectiveness SCORES

Honduras: ranged from 9.39 (tongue cancer) among smokers and 9.54 among non-smokers (tongue cancer) to 4.39 (agrotoxics) among smokers and 4.31 (poverty) among non-smokers.

Nicaragua: ranged from 9.58 (death) among smokers and 9.37 (tongue cancer) among non-smokers to 6.48 (blindness) among smokers and 6.96 (poverty) among non-smokers.
<table>
<thead>
<tr>
<th></th>
<th>SMOKERS</th>
<th>NON-SMOKERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TONG CANCER</strong></td>
<td>SMOKERS: <img src="image1.png" alt="Image" /> <strong>9.39</strong></td>
<td>NON-SMOKERS: <img src="image2.png" alt="Image" /> <strong>9.54</strong></td>
</tr>
<tr>
<td><strong>MOUTH CANCER</strong></td>
<td>SMOKERS: <img src="image3.png" alt="Image" /> <strong>9.14</strong></td>
<td>NON-SMOKERS: <img src="image4.png" alt="Image" /> <strong>9.10</strong></td>
</tr>
<tr>
<td><strong>ABORTION</strong></td>
<td>SMOKERS: <img src="image5.png" alt="Image" /> <strong>8.32</strong></td>
<td>NON-SMOKERS: <img src="image6.png" alt="Image" /> <strong>8.38</strong></td>
</tr>
<tr>
<td><strong>LUNG CANCER</strong></td>
<td>SMOKERS: <img src="image7.png" alt="Image" /> <strong>8.14</strong></td>
<td>NON-SMOKERS: <img src="image8.png" alt="Image" /> <strong>8.30</strong></td>
</tr>
</tbody>
</table>
## Honduras: Lowest Rated Pictograms

<table>
<thead>
<tr>
<th>SMOKERS</th>
<th>NON-SMOKERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Poverty &amp; Child Labor</strong></td>
<td><strong>Gangrene</strong></td>
</tr>
<tr>
<td><img src="image1" alt="" /> 4.62</td>
<td><img src="image2" alt="" /> 4.84</td>
</tr>
<tr>
<td><strong>Gangrene</strong></td>
<td><strong>Blindness</strong></td>
</tr>
<tr>
<td><img src="image3" alt="" /> 4.58</td>
<td><img src="image4" alt="" /> 4.74</td>
</tr>
<tr>
<td><strong>Deforestation</strong></td>
<td><strong>Poverty &amp; Child Labor</strong></td>
</tr>
<tr>
<td><img src="image5" alt="" /> 4.49</td>
<td><img src="image6" alt="" /> 4.50</td>
</tr>
<tr>
<td><strong>Agrotoxics</strong></td>
<td><strong>Poverty &amp; Child Labor</strong></td>
</tr>
<tr>
<td><img src="image7" alt="" /> 4.39</td>
<td><img src="image8" alt="" /> 4.31</td>
</tr>
<tr>
<td></td>
<td>SMOKERS</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>DEATH</strong></td>
<td><img src="image1" alt="Image" /></td>
</tr>
<tr>
<td><strong>TONG CANCER</strong></td>
<td><img src="image2" alt="Image" /></td>
</tr>
<tr>
<td><strong>LARINX CANCER</strong></td>
<td><img src="image3" alt="Image" /></td>
</tr>
<tr>
<td><strong>MOUTH CANCER</strong></td>
<td><img src="image7" alt="Image" /></td>
</tr>
<tr>
<td><strong>LUNG CANCER</strong></td>
<td><img src="image9" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>SMOKERS</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td><strong>POVERTY &amp; CHILD LABOR</strong></td>
<td><img src="image1.png" alt="Image" /> 6.90</td>
</tr>
<tr>
<td><strong>GANGRENE</strong></td>
<td><img src="image3.png" alt="Image" /> 6.88</td>
</tr>
<tr>
<td><strong>AGROTOXICS</strong></td>
<td><img src="image5.png" alt="Image" /> 6.56</td>
</tr>
<tr>
<td><strong>BLINDNESS</strong></td>
<td><img src="image7.png" alt="Image" /> 6.48</td>
</tr>
</tbody>
</table>
Honduras: Warning size

**Smokers**
- Pictograma 30%
- Pictograma 50%
- Pictograma 80%
- Ninguno

**Theme: death**
- Mayfair
- Fumar causa una muerte
- Lenta y Dolorosa

**Non-Smokers**
- Pictograma 30%
- Pictograma 50%
- Pictograma 80%
- Ninguno

83,10%
15,30%
0,80%
0,80%

83,00%
2%
15%
Nicaragua: Warning size

Smokers
- Pictograma 30%
- Pictograma 50%
- Pictograma 80%
- Ninguno

Non-Smokers
- Pictograma 30%
- Pictograma 50%
- Pictograma 80%
- Ninguno

Theme: death
- 30%
- 50%
- 80%
CONCLUSIONS

- Pictograms whose content describe health effects were ranked higher in comparison with environmental health effects or poverty both among smokers and non-smokers in both countries.
- Internal and external diseased organs were the most effective identified themes.
- However, in Nicaragua poverty and environmental health affects were ranked relatively high as well, suggesting the need of consider including this novel content as part of a rotational warning set.
ACKNOWLEDGEMENTS

• HealthBridge and Health Canada grant to the InterAmerican Heart Foundation

• Program project grant P01 CA138-389-01 “Effectiveness of Tobacco Control Policies in High vs. Low Income Countries”.