Testing the impact of pictorial warnings on cigarette packs on initiation of smoking and quitting intentions in a tobacco control policy void

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Tobacco Control Policies

Lebanon ratified the WHO Framework Convention on Tobacco Control (FCTC) in 2005

WHO FCTC binds all parties to implement article regarding health warnings within 5 years following the ratification.
National Tobacco Control Policies

- law 394/1995 adapted the 1983 decree on **labeling** by requiring the warning:
  - “MOH warns smoking leads to dangerous and deadly diseases”
  - be ‘clear to the naked eye’ on the pack (no size specified)
  - and occupy 15% of advertising space.
In Lebanon:
Among adults:
- 35% of females smoke cigarettes
- 46% of males smoke cigarettes

Among health professionals:
- over 27% of medical and dental students smoke cigarettes (3).

Among youth, (Global Youth Tobacco Survey, 2005) for grades 7-9 in 92 private and public schools:
- found that 60% currently smoked any tobacco product, but with the majority smoking waterpipe.
2011

2011 Law number 174: SFP, HW, and advertising bans
International evidence on effectiveness of pictorial health warnings

- Countries with HW labels reported higher health knowledge with a discrepancies in the level of knowledge on health risks across those four countries. (Hammond et al., 2006)

- In 2009, over a five year period evaluating the impact of health warnings on smokers by comparing the impact of graphic Australian warnings in 2006 to earlier UK large text warnings of 2003 and Canadian graphic warnings of 2000 (Borland et al., 2009).

- Larger graphic warnings were more effective, and graphic warnings were more effective than textual based messages.
Factors that influence the impact of graphic warnings includes:

- size
- placement (front or back),
- the specific pictures (with more gruesome pictures rated as more effective even by smokers),
- the content of the accompanying text warning,
- the attribution of the warning (Ministry of Health or Syndicate of Physicians or others, 6).
Objectives of our study

To test various pictorial warnings and text warnings with three target populations in Lebanon.

a. Students in schools
b. Students in universities (18-24 years)
c. Adults (25-65 years)
Methods
Initial phase: choice of pictorial health warnings to test

- Review of the [www.tob accol abe ls.ca](http://www.tobacco labels.ca)
- Identify different warnings
- Meet with graphic designer
- Meet with a group of tobacco control experts, communication and health experts
- **Seven** different themes and accompanying text messages and/or graphic health warnings were identified
Initial phase:

1. **impact of second hand smoke** (pregnancy and *in general*) – university, adults and schools
2. **long term health impact** (heat disease, *lung cancer*, vascular disease) – university, adults and schools
3. **short term health impact** (*teeth color*, clothes smell - for adolescents) – school and university
4. reproductive health impact (impotence) – university and adult
5. dependence university, adult
6. cessation - university and adult
7. financial loss university and adult

Pilot tested the pictures
Pictorial warnings on cigarettes packs tested with school students

Long term health impact

Second hand smoking

Short term impact
Pictorial warnings on cigarettes packs tested with university students
التدخين يؤدي للعجز الجنسي.
ما تدخن.

مش طالع مي أمرك شي؟
ما تدخن.

آخر همك مصرياتك؟
ما تدخن.

التدخين يضاعف خطر الإصابة بالجلطة الدماغية.
وقف هلق.

التدخين يسبب أمراض القلب.
وقف هلق.

آخر همك مصرياتك؟
ما تدخن.
Pictorial warnings on cigarettes packs tested with adults

Only one not shown to adults
Text warnings tested only with adults

• Nicotine in cigarettes is addictive

• Smoking is a leading cause of death worldwide

• Smoking is addictive

• Smoking causes heart and vascular diseases
• Second hand smoke harms children

• Smoking doubles your risk of stroke

• Smoking results in impotence
Second step: Data Collection

- School (13-18 years) - 30 public and private schools across Lebanon - Total number was : 1797
- University (18-25) – 7 universities across Lebanon - Total number was: 1229
- Adults - Convenience sample across Lebanon – Total number was: 1523 (Majority in Greater Beirut)
Methodology
Survey items

- Include measures of: (8)
  - **Messages** related variables
  - **Impact** related variables
  - **Demographics** variables

- Theories referred to:
  - Communication Theories: impact (effectiveness), self efficacy (confident/feel capable)
  - Behavioral change theories: attitudes and intentions (9)
  - Health believe model: intention (for quitting or not to start, remain quit)
Ethics

• IRB approval
• Approval of the Ministry of Education
• Consent of school principal
• Consent of parents
• Assent of the student
• Information sheet
Third step: analysis

- SPSS (version19)
- Descriptive statistics - including means, standard deviations and proportions - were computed.
- McNemar test was used to investigate pair-wise bivariate associations between the questions asked for the suggested warnings and the current one.

- A p-value of 0.05 or less was considered statistically significant.
Results
Percentage of smoking status among school, university, and adult participants
## Knowledge of health effects among school, university, and adult participants

<table>
<thead>
<tr>
<th></th>
<th>Males smokers (%)</th>
<th>Males non-smokers (%)</th>
<th>Females smokers (%)</th>
<th>Females non-smokers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>kills</td>
<td>60.7</td>
<td>63.5</td>
<td>64.3</td>
<td>69.1</td>
</tr>
<tr>
<td>Addictive</td>
<td>63.4</td>
<td>76</td>
<td>71.4</td>
<td>77.2</td>
</tr>
<tr>
<td>Harm fetus</td>
<td></td>
<td></td>
<td>71.4</td>
<td></td>
</tr>
<tr>
<td>Causes wrinkles</td>
<td>50.9</td>
<td>57</td>
<td>61.7</td>
<td>57.1</td>
</tr>
<tr>
<td>Lung cancer</td>
<td></td>
<td></td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Causes heart disease</td>
<td>75</td>
<td>76.8</td>
<td>71.4</td>
<td>74.7</td>
</tr>
<tr>
<td>Causes cerebral stroke</td>
<td>42.9</td>
<td>51.6</td>
<td>54.6</td>
<td>57.9</td>
</tr>
<tr>
<td>Leads to impotence</td>
<td>32</td>
<td>40.8</td>
<td>39.8</td>
<td>40.3</td>
</tr>
<tr>
<td>Quitting is difficult</td>
<td>73.2</td>
<td>68.4</td>
<td>66.3</td>
<td>72.4</td>
</tr>
</tbody>
</table>

Legend: 
- **schools**
- **universities**
- **adults**
Top pictorial warnings that motivate *school children* to remain non-smokers or to quit smoking compared to the current warning:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Males smokers</th>
<th>Males non-smokers</th>
<th>Females smokers</th>
<th>Females non-smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lungs cancer</td>
<td>Lungs cancer</td>
<td>Smoking kills</td>
<td>Teeth decay</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lungs cancer</td>
</tr>
<tr>
<td>2</td>
<td>Teeth decay</td>
<td>Teeth decay</td>
<td>SHS (youth)</td>
<td>Teeth decay</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lungs cancer</td>
<td>Smoking kills</td>
</tr>
<tr>
<td>3</td>
<td>Smoking kills</td>
<td>SHS (youth)</td>
<td>Smoking kills</td>
<td>SHS (youth)</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>SHS (youth)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Top pictorial warnings that motivate university students to remain non-smokers or to quit smoking compared to the current warning

<table>
<thead>
<tr>
<th>Rank</th>
<th>Males smokers</th>
<th>Males non-smokers</th>
<th>Females smokers</th>
<th>Females non-smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>heart disease</td>
<td>lung cancer</td>
<td>lung cancer</td>
<td>cerebral stroke</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>lung cancer</td>
</tr>
<tr>
<td>2</td>
<td>lung cancer</td>
<td>heart disease</td>
<td>SHS children</td>
<td>teeth decay</td>
</tr>
<tr>
<td>3</td>
<td>teeth decay</td>
<td>teeth decay</td>
<td>cerebral stroke</td>
<td>money</td>
</tr>
<tr>
<td>4</td>
<td>Impotence (thumbs down)</td>
<td>cerebral stroke</td>
<td>teeth decay</td>
<td>heart disease</td>
</tr>
<tr>
<td>Rank</td>
<td>Males smokers</td>
<td>Males non-smokers</td>
<td>Females smokers</td>
<td>Females non-smokers</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
<td>-------------------</td>
<td>----------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>1</td>
<td>Smoking kills</td>
<td>Heart disease</td>
<td>Lungs cancer</td>
<td>Heart disease</td>
</tr>
<tr>
<td>2</td>
<td>Heart disease</td>
<td>Lungs cancer</td>
<td>SHS (children)</td>
<td>Teeth decay</td>
</tr>
<tr>
<td>3</td>
<td>Lungs cancer</td>
<td>Heart disease</td>
<td>SHS (fetus)</td>
<td>Heart disease</td>
</tr>
<tr>
<td>4</td>
<td>Teeth decay</td>
<td>Heart and cardiovascular disease (text warning)</td>
<td>Cerebral stroke</td>
<td></td>
</tr>
</tbody>
</table>

Top pictorial warnings that motivate adults to remain non-smokers or to quit smoking compared to the current warning.
SCHOOL STUDENTS

Intention not to start/try to quit smoking

Confidence not to start/can quit smoking
In Summary

• Add summary of findings to wrap up, with the winning pictorials!
Challenges

• Consent of school for participation/parents
• Data collection timing among schools
• Length of the questionnaire
• Linking the pictorials to the questions
• Data collectors and data entry personnel

Other challenges
• Consent of school for participation/parents (schools)
Conclusions and Recommendations

- **Inform policy** related to health warning labels on cigarette packs in Lebanon
- Increase the possibility that once the law is enforced, its **implementation** is in line with the findings.

- Health warning labels on cigarette packs in Lebanon will be evidence-based:
  - quit and actual quitting
  - intention to remain smoke free for those who do not yet smoke
  - reduce uptake of cigarettes by youth
Policy brief dissemination in August 2011 to all Parliamentarians and to the media
Acknowledgement

- Funders: URB; AUB and FCA/ASH international

- Data collectors and data entry

- All students who gave of their time to engage with us in this research
References