Pictorial Cigarette Health Warning Labels in China: Effective Design Feature Combinations for Future Policy

Jeffrey J. Hardesty, M.P.H., Joanna E. Cohen, Ph.D., Zuyi Zhu, M.D., Ryan D. Kennedy, Ph.D.

Johns Hopkins Bloomberg School of Public Health, Department of Health, Behavior & Society, Institute for Global Tobacco Control, Baltimore, MD

Introduction

Background:
- China has 300 million smokers and nearly 600 million non-smokers are affected by secondhand smoke.
- WHO FCTC treaty was ratified in 2005. Implementation of tobacco control policies have been slow.
- China's current cigarette HWLs are text only and translate to, “Smoking is harmful to your health; please don’t smoke in smoke-free places”. They are not effective in communicating the harms of smoking and encouraging smokers to quit. Combinations of pictorial HWL design features have not been thoroughly studied.

Study Objective:
- To identify effective combinations of pictorial health warning label design features for use on Chinese cigarette packs. Features included type of health message (‘self-harm’ vs. ‘smokers-harming-others’, text (factual vs. personal), and pictures (pathology vs. individual suffering).

Methods

- Cross-sectional randomized experimental survey conducted during 2016 in Beijing, Shanghai, Wuhan, and Kunming.
- Sample (n=2030): 85% men, 15% women; 80% smokers, 20% non-smokers; 50 < 40 years old, 50 > 40 years old.
- Participants were randomized to one of four groups: self-harm & factual text, self-harm & personal text, smokers-harming-others & factual text, and smokers-harming-others & personal text. Each group of HWLs included eight HWLs: four pathology and four individual suffering images.
- Rating questions utilized a 10-point scale, with 10 being the most effective at (1) making smokers consider quitting and (2) preventing non-smokers from initiating use.
- Group comparisons were conducted using two-tailed t-tests, α=0.05.

Results

Table 1. Comparison of mean ratings of design feature combinations

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Self-harm + factual text</th>
<th>Self-harm + personal text</th>
<th>Smokers-harming-others + factual text</th>
<th>Smokers-harming-others + personal text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking of quitting (smokers)</td>
<td>6.4 [REF]</td>
<td>6.5</td>
<td>6.8**</td>
<td>7.0***</td>
</tr>
<tr>
<td>Preventing initiation (non-smokers)</td>
<td>7.3 [REF]</td>
<td>7.7</td>
<td>7.7</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Ratings were based on a scale of 1 to 10 with 10 being the most effective at increasing quit-related thoughts among smokers, n=1612; Non-smoker, n=418

** p<0.01
*** p<0.001

Figure 1. Sample of mock cigarette packs with HWLs (English translations), by independent group

Discussion:
- All combinations of cigarette pictorial HWL features tested in our study may be effective in China.
- Combinations that included smokers-harming-others health messages fared slightly better than self-harm health messages in terms of thinking about quitting.
- Given China’s collectivistic culture and reluctance to adopt pictorial HWLs, re-framing the HWL policy discussion to emphasize health messages that depict smokers-harming-others may be advantageous.

Summary & Next Steps:
- Our data suggest any combination of pictorial HWL design features from our study will increase quit-related thoughts and prevent non-smokers from initiating use.
- Most HWLs in the world depict self-harm. Our HWLs with messages about smokers-harming-others were more effective at increasing quit-related thoughts than self-harm messages. Creates an opportunity to re-frame the policy discussion.
- Currently planning a study to test smokers-harming-others themes to identify evidence-based HWLs that are ready for use in future policy.

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