

Pictorial Cigarette Health Warning Labels in China: Effective Messages for Future Policy

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The background features a dark blue gradient. On the left side, there is a faint, light blue graphic of a globe with a flame rising from its top. A horizontal, semi-transparent light blue bar spans across the middle of the image, containing the word "Background" in white text.

Background

Context

- In China, 300 million smokers and nearly 600 million non-smokers are affected by secondhand-smoke
- Ratified the WHO FCTC treaty in 2005
- Implementation of tobacco control policies in China has been slow



Tobacco Industry in China

- China National Tobacco Corporation (CNTC) is state-owned monopoly and their government administrative arm, the State Tobacco Monopoly Administration (STMA), develops and manages the tobacco market and implements anti-smoking efforts
- CNTC contributes 7-10% of the country's annual revenue



Purpose of Cigarette Pictorial Health Warning Labels

- Educate the public about the harms of smoking
- Increase quit-related thoughts among smokers
- Prevent non-smokers from initiating use



https://www.google.com/url?sa=i&rect=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwioz_OW6vrWAhUC9YMKHRuXD4MQjRwIbw&url=http%3A%2F%2Fwww.atfchypnotherapy.com%2Fservices%2Fsmoking-cessation-hypnosis%2F&psig=ADVvw3UHFt2984n-erwIDc:CLJST&ust=1508438625907260



<http://www-static.weddingbee.com/pics/278075/kids.jpg>

FCTC Implementation Guidelines

China's HWLs



Translation: Smoking is harmful to your health;
please don't smoke in smoke-free places

Vietnam's HWLs



Translation: Smoking causes lung cancer



Effectiveness of the Current HWLs in China

Not effective at communicating the harms of smoking and encouraging smokers to quit



<http://globaltobaccocontrol.org/tpackss/>



Our Research

- In a 2016 survey, our team found that pictorial HWLs with messages about smokers-harming-others were more effective than messages about harming themselves
- In December 2017, we conducted a follow up survey to test pictorial HWLs with more specific messages about smokers-harming-others
- The HWLs tested included messages about self-harm, harming family or children, harming-others in smoke free places, and anti-cigarette gift giving

Objective: To identify effective pictorial health warning label (HWL) messages for use on Chinese cigarette packs





Methods

Methods

- A cross-sectional randomized experimental HWL survey was conducted in December 2017 in Beijing, Shenzhen, and Shanghai (all 3 have public smoking bans)
- 1605 adult (18+) smokers were randomized to a type of message on HWLs :
1. Self-harm, 2. Harming family or children, 3. Harming others in smoke free places, and 4. Anti-cigarette gift giving
- All HWLs included a lung pathology image (due to results from our 2016 survey), a primary statement about smoking harms, and a secondary health message relevant to the type of message. Each participant viewed eight HWLs
- Five rating questions used a 10-point scale, with 10 being the most effective. Group comparisons were conducted using unpaired t-tests ($\alpha=0.05$)



Methods

Indicators of Effectiveness	Reason for Inclusion
“...think about quitting”	Self-harm HWLs
“...concerned about smoking near my family” and “...concerned about smoking near children”	Harming family or children HWLs
“...more likely to comply with public smoking bans”	Harming others in smoke free places HWLs
“...stop me from gifting cigarettes”	Anti-cigarette gift giving HWLs

All HWLs were evaluated using each of these indicators of effectiveness



Sample of Pictorial Health Warning Labels

Self-harm



Harming family or children



Sample of Pictorial Health Warning Labels

Harming others in smoke free places



Anti-cigarette gift giving





Results

Results

Indicators of Effectiveness, by HWLs with Different Messaging Themes

Indicators	Self-harm HWLs	Harming family or children HWLs	Harming others in smoke free places HWLs	Anti-cigarette gift giving HWLs
Thinking about quitting	6.69	6.91	6.70	6.64
Concerned about smoking near my family	7.14	7.30	7.13	7.07
Concerned about smoking near children	7.41	7.65	7.38	7.31
Comply with smoking bans	7.18	7.41	7.29	7.11
Stop cigarette gift giving	6.72	7.04	6.71	6.78

Mean ratings reported;

Comparisons conducted using unpaired t-tests (alpha=0.05)

Key Finding #1: All pictorial HWLs performed reasonably well for each indicator



Results

Indicators of Effectiveness, by HWLs with Different Messaging Themes

Indicators	Self-harm HWLs	Harming family or children HWLs	Harming others in smoke free places HWLs	Anti-cigarette gift giving HWLs
Thinking about quitting	6.69	6.91	6.70	6.64
Concerned about smoking near my family	7.14	7.30	7.13	7.07
Concerned about smoking near children	7.41	7.65	7.38	7.31
Comply with smoking bans	7.18	7.41	7.29	7.11
Stop cigarette gift giving	6.72	7.04	6.71	6.78

Mean ratings reported;

Comparisons conducted using unpaired t-tests (alpha=0.05)

Key Finding #2: In terms of “thinking about quitting,” harming family or children HWLs performed better than anti-cigarette gift giving HWLs (p=0.06)



Results

Indicators of Effectiveness, by HWLs with Different Messaging Themes

Indicators	Self-harm HWLs	Harming family or children HWLs	Harming others in smoke free places HWLs	Anti-cigarette gift giving HWLs
Thinking about quitting	6.69	6.91	6.70	6.64
Concerned about smoking near my family	7.14	7.30	7.13	7.07
Concerned about smoking near children	7.41	7.65	7.38	7.31
Comply with smoking bans	7.18	7.41	7.29	7.11
Stop cigarette gift giving	6.72	7.04	6.71	6.78

Mean ratings reported;

Comparisons conducted using unpaired t-tests (alpha=0.05)

Key Finding #3: In terms of “concerned about smoking near my family,” harming family or children HWLs performed better than anti-cigarette gift giving HWLs (p=0.09)



Results

Indicators of Effectiveness, by HWLs with Different Messaging Themes

Indicators	Self-harm HWLs	Harming family or children HWLs	Harming others in smoke free places HWLs	Anti-cigarette gift giving HWLs
Thinking about quitting	6.69	6.91	6.70	6.64
Concerned about smoking near my family	7.14	7.30	7.13	7.07
Concerned about smoking near children	7.41	7.65	7.38	7.31
Comply with smoking bans	7.18	7.41	7.29	7.11
Stop cigarette gift giving	6.72	7.04	6.71	6.78

Mean ratings reported;

Comparisons conducted using unpaired t-tests (alpha=0.05)

Key Finding #4: In terms of “concerned about smoking near children,” harming family or children HWLs performed better than self-harm (p=0.07), smoke free compliance (p=0.04), and anti-cigarette gift giving HWLs (p=0.02)



Results

Indicators of Effectiveness, by HWLs with Different Messaging Themes

Indicators	Self-harm HWLs	Harming family or children HWLs	Harming others in smoke free places HWLs	Anti-cigarette gift giving HWLs
Thinking about quitting	6.69	6.91	6.70	6.64
Concerned about smoking near my family	7.14	7.30	7.13	7.07
Concerned about smoking near children	7.41	7.65	7.38	7.31
Comply with smoking bans	7.18	7.41	7.29	7.11
Stop cigarette gift giving	6.72	7.04	6.71	6.78

Mean ratings reported;

Comparisons conducted using unpaired t-tests (alpha=0.05)

Key Finding #5: In terms of “comply with smoking bans,” harming family or children HWLs performed better than self-harm (p=0.09) and anti-cigarette gift giving HWLs (p=0.02)



Results

Indicators of Effectiveness, by HWLs with Different Messaging Themes

Indicators	Self-harm HWLs	Harming family or children HWLs	Harming others in smoke free places HWLs	Anti-cigarette gift giving HWLs
Thinking about quitting	6.69	6.91	6.70	6.64
Concerned about smoking near my family	7.14	7.30	7.13	7.07
Concerned about smoking near children	7.41	7.65	7.38	7.31
Comply with smoking bans	7.18	7.41	7.29	7.11
Stop cigarette gift giving	6.72	7.04	6.71	6.78

Mean ratings reported;

Comparisons conducted using unpaired t-tests (alpha=0.05)

Key Finding #6: In terms of “stop cigarette gift giving,” harming family or children HWLs performed better than self-harm ($p=0.03$), smoke free compliance ($p=0.02$), and anti-cigarette gift giving HWLs ($p=0.07$)





Conclusions

Summary and Recommendations

- All HWL messages tested may be effective in China
- Harming family or children messages consistently performed modestly better than the other messages for all indicators of effectiveness
- Results are consistent with our previous findings that showed messages about smokers-harming-others performed better than self-harm messages



http://www.chinadaily.com.cn/cndy/2007-10/10/content_6161517.htm



Q&A



http://www.chinadaily.com.cn/china/2011-01/07/content_11808366.htm



References

1. China Details | Tobacco Control Laws. Available at: <https://www.tobaccocontrollaws.org/legislation/country/china/pl-health-warnings>. Accessed 8/24/2018.
2. Gonghuan Y. Global Adult Tobacco Survey (GATS) China 2010 Country Report. *China Center for Disease Control and Prevention, China CDC* 2010. Available at: <http://www.who.int/tobacco/surveillance/survey/gats/china/en/>. Accessed 8/24/2018.
3. WHO | Parties to the WHO Framework Convention on Tobacco Control. Available at: http://www.who.int/fctc/signatories_parties/en/. Accessed 7/20/2017, 2017.
4. He P, Takeuchi T, Yano E. An overview of the China National Tobacco Corporation and State Tobacco Monopoly Administration. *Environmental Health & Preventive Medicine* 2013;18:85 doi: 10.1007/s12199-012-0288-4.
5. Institute for Global Tobacco Control. State of Evidence Review: Health Warning Labels on Tobacco Products 2013. Available at: https://globaltobaccocontrol.org/sites/default/files/HealthWarnings_state_of_evidence_final_11_18_2013_web_0.pdf. Accessed 8/24/2018.
6. People's Republic of China. Rules on Cigarette Package Labeling in the Jurisdiction of the People's Republic of China 2015. Available at: <https://www.tobaccocontrollaws.org/files/live/China/China%20-%20Rules%20on%20Cigarette%20Packaging%20%282015%29.pdf>. Accessed 8/24/2018.
7. Yang Y, Wang JJ, Wang CX, et al. Awareness of tobacco-related health hazards among adults in China. *Biomedical And Environmental Sciences: BES* 2010;23:437 doi:10.1016/S0895-3988(11)60004-4.
8. Fong GT, Hammond D, Jiang Y, et al. Perceptions of tobacco health warnings in China compared with picture and text-only health warnings from other countries: an experimental study. *Tob Control* 2010;19:i69 doi:10.1136/tc.2010.036483.

