Cessation support via mobile phone text messaging: Results from a pilot program in Suzhou, China

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Project Background

Cigarette smoking is ranked as the world’s leading cause of disease and death in the world, and China is home to over 300 million smokers. It’s estimated that China’s death toll from tobacco-related diseases will exceed 2 million per year by 2020 if current smoking rates continue. While the 2010 China GATS results showed that only 16% of current smokers were planning on or thinking about quitting in the next 12 months, the recent media attention to the dangers of tobacco use and secondhand smoke and broad increases in smoke-free policies will likely lead to increases in smokers’ desire to quit. However, the logistics and potential costs of providing cessation services within China are daunting. Mobile phone technology has shown positive results in helping smokers in other countries to quit. Given China’s widespread use of mobile phones, the technology has the potential to provide low-cost, in vivo support to smokers seeking cessation assistance.

Project Description/Intervention

To assess the usability and possible benefit of a Chinese text-based smoking cessation program, 665 smokers were offered a text-based cessation program in conjunction with an annual city-sponsored quit smoking contest. The messages were based on the QuitNowTXT program developed by the National Cancer Institute in the United States, and included motivational and behavioral change content. They were revised to reflect cultural norms and translated into Chinese. An additional 665 smokers who participated in the contest were randomly selected to serve as controls and did not receive the text messages.

Methods

All participants completed a baseline survey as part of joining the annual quit contest. The survey contained eight questions and was conducted through face-to-face interviews. The post-intervention survey, which also contained eight questions and was conducted through face-to-face or telephone interviews, was completed between 2–3 months after the end of the contest/end of the text message intervention. In addition, user satisfaction was assessed among those who received the text messages. Among those who were included in the study, 541 in the Text Message group and 638 in Control group had complete information available for analysis.

Bivariate analysis was conducted comparing the Text Message group to the Control group on socio-demographic variables. Logistic regression was used to assess predictors of quit success based on study group and baseline demographics. The association between quit success and indicators of nicotine-dependence level at baseline was evaluated by multivariate logistic regression among the Text Message group. User satisfaction results are presented using descriptive statistics. The analyses were conducted using SAS Version 9.3 (SAS Institute, Cary, NC).

Results

The overall quit rate for the Text Message group was 44%, compared to the quit rate for the Control group of 31% (p<.0001). The two groups differed on most baseline demographic variables, including cigarettes smoked per day. After controlling for these differences within the logistic model, a statistically significant difference continued to be demonstrated, with the Text Message group almost twice as likely to have quit compared to the Control group (OR=1.91, 95% CI, 1.46–2.50). Among those who received the text messages, smoking frequency was associated with quit success, but other markers of nicotine dependence were not. Additional analyses (data not shown) also revealed that smokers in the Text Message group who did not quit reported smoking fewer cigarettes per day and less frequently. High user satisfaction with the text program was reported, and participants felt that the text messages provided helpful tips that motivated them to quit. Although preliminary, these results suggest that text-based cessation interventions hold substantial promise in China.

Conclusion/Recommendation

Conducting face-to-face interview
Conducting phone interview
Suzhou TXT Message database
Pre-survey tools
Post-survey tools