How to Word Effective Messages About Smoking and Oral Health: Emphasize the Benefits of Quitting

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Abstract: This project examined whether smokers differentially responded to messages about oral health that emphasized either the benefits of quitting smoking or the risks of continued smoking. Messages concerning oral health and smoking were developed to emphasize the benefits of quitting smoking (gain-framed) or the costs of continued smoking (loss-framed). These messages were embedded in recruitment brochures for smoking cessation trials, which were placed in twenty dental office waiting rooms for a six-month period. The number of brochures taken from the waiting rooms was tracked, as well as calls to inquire about smoking cessation studies. As hypothesized, dental patients were more likely to acquire gain-framed brochures. Out of 271 brochures taken from the dental office waiting rooms, significantly more brochures contained gain-framed messages compared to loss-framed messages (59 percent vs. 41 percent, $p<.05$). There was an equal number of calls to inquire about smoking cessation studies for each message type. Overall, individuals in dental office waiting rooms were more likely to take brochures about smoking cessation trials that contained gain-framed messages concerning oral health and smoking. Information about oral health and smoking typically emphasizes the dangers of continued smoking. This study found that smokers are more receptive to information that emphasizes the benefits of quitting.

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Nicotine dependence is currently responsible for every one in five deaths, and for over four million deaths in the last ten years in the United States.[1] With regard to oral health, tobacco use has been identified as a major risk factor for oral and pharyngeal cancers, leukoplakia, periodontitis, and delayed wound healing.[2-6] Consequently, the American Dental Association has been an ardent supporter of policies and legislation aimed at promoting smoking cessation.[7]

Information provided to the public about smoking typically emphasizes the dangers of continued smoking. For example, the warning labels placed on all cigarette packages and advertisements by the U.S. Surgeon General usually focus on the negative consequences of smoking (for example, heart disease, cancer, birth defects). Health Canada goes one step further and places graphic photographs on the front cover of cigarette packages depicting such things as decaying teeth and blackened lungs. However, it is unclear how effective these messages are at promoting smoking cessation.[8] There is some evidence to suggest that the effectiveness of smoking cessation messages would be enhanced if the benefits of quitting were emphasized, rather than the risks of continued smoking. Messages that focus on the benefits of adopting a health-promoting behavior are referred to as gain-framed, whereas messages that emphasize the costs of failing to adopt a health-promoting behavior are referred to as loss-framed.

Prospect theory[9] predicts that an individual's relative preference for options with certain and uncertain outcomes is affected by how the relevant information is described. When the potential losses of each alternative are emphasized, people prefer options with uncertainty (or risk); in contrast, when the

potential benefits of each alternative are emphasized, people prefer options where the outcome is certain. Rothman and Salovey[10] used the basic tenets of this theory as a guide to predict people's responses to messages promoting health behaviors. Detection behaviors, such as HIV-antibodies testing or mammography screening, are often viewed as inherently risky because a person may discover that he or she is ill. On the other hand, prevention behaviors, such as the use of condoms or sunscreen, may be viewed as risk-free. In fact, they help people avoid the risk of acquiring an illness. Therefore, messages framed to emphasize losses should be more effective at convincing people to execute detection behaviors, as people are more willing to take risks when hearing such messages, whereas messages framed to emphasize gains should be more effective at promoting prevention behaviors, as such messages encourage people to avoid risks. These hypotheses now have been supported across a variety of behaviors and diseases.[11-17]

Although smoking cessation is typically viewed as a disease-preventing behavior, most messages aimed at smoking cessation are loss-framed rather than gain-framed. In two prior studies, we have demonstrated that smokers differentially respond to gain- (for example, quitting smoking will reduce your risk of cancer) versus loss-framed messages (for example, continuing to smoking will increase your risk of cancer) about smoking cessation.[15-16] For example, Schneider et al.[15] presented an eighteen-minute video that contained either gain- or loss-framed messages about smoking cessation to 437 undergraduates. Participants who viewed gain-framed messages were more likely to acknowledge benefits related to smoking cessation and have increased self-efficacy concerning quitting. Moreover, when smoking was assessed thirty days later, participants who had viewed the gain-framed video had reduced smoking rates compared to those who had viewed the loss-framed video.

The purpose of this study was to examine whether individuals differentially responded to gain- and loss-framed messages concerning oral health and smoking cessation. Specifically, we were interested in looking at whether gain- and loss-framed messages concerning smoking cessation and oral health embedded in recruitment brochures for smoking cessation trials, differentially motivate smokers to a) take brochures from dental offices, and b) call to inquire about smoking cessation. Based on our prior work, we predicted that there would be a preferential finding for gain-framed messages.

Methods

We recruited twenty dental offices in New Haven County, Connecticut, area to participate in this study. These were independent practitioners with patient caseloads ranging from 5,000 to 10,000. Basic demographic characteristics of residents in New Haven County are: 48 percent male, median age of thirty-seven, predominantly Caucasian (75 percent white, 11 percent black, 10 percent Latino), 52 percent have at least some college education, and the median yearly family income is $60,549. The dental offices gave permission to have the framed message brochures recruiting for smoking cessation trials placed in their waiting rooms. Patients attending a dental appointment were free to take a framed message brochure from the waiting room and call to inquire about a smoking cessation study. Informed consent was not obtained from the dental patients as no direct information was collected from them.

Brochures containing gain- and loss-framed messages about oral health and smoking cessation were designed to solicit inquiries for smoking cessation trials being conducted at the Yale University School of Medicine. Every three months during the six-month data collection period, one-half of the offices were randomly assigned to display the gain-framed brochure, and the other half the loss-framed brochure (n = 50 brochures per office, 1000 total). At the end of the first three-month period, a research assistant went to each dental office and counted the number of brochures that had been taken and switched the type of framed brochure for the following three-month period. Phone calls inquiring about smoking cessation studies generated from each of the framed brochures were tallied.

Gain- and loss-framed messages concerning smoking cessation and oral health were embedded into recruitment brochures for smoking cessation studies. The brochures were threefold and printed on 8 1/2" x 11" paper. Messages concerning oral health and smoking were developed from information obtained from the American Dental Association's website.[18] Brochures were identical in content with the exception of framed message information and

framed messages about smoking cessation. Second, it should be noted that the sample was small, and these findings may only generalize to other populations with similar demographic characteristics.

These results are consistent with other studies finding that smokers are more likely to respond to positive messages about smoking cessation compared to messages that induce fear and anxiety.[19] Leviton et al.[20] reports that it is important to emphasize the benefits of quitting, in addition to personalizing the health risks and increasing a patient's self-efficacy regarding their ability to quit. In fact, the Agency for Health Care Policy and Research[21] suggests that clinicians should address the negative consequences of continued smoking (for example, heart attacks and strokes, lung and other cancers) and highlight the benefits of quitting (for example, improve health, feel better about yourself) to help motivate patients to quit smoking. The Surgeon General[22] finds that smoking cessation results in immediate health benefits for adults who quit at any age, even in those with preexisting smoking-related illness. The risk of smoking-related health consequences (for example, cancers and coronary disease) is dramatically reduced in those who quit smoking, and life expectancy is improved.

Given the negative health consequences of tobacco use (including oral and pharyngeal cancers, leukoplakia, periodontitis, and delayed wound healing), Mecklenburg[23] states that dentists should provide smoking cessation because it is ethical, moral, evidence-based, practical, and cost-effective. National surveys have found that 30 to 50 percent of dentists provide advice to their patients concerning smoking cessation.[24,25] Studies have demonstrated that it is feasible to incorporate brief smoking cessation interventions into dental practices.[26] Interventions, including brief counseling, have successfully reduced rates of smoking among dental patients.[27,28] Current U.S. Clinical Practice Guidelines on treating tobacco use and dependence support the use of the 5 As: ask about tobacco use, advise patients to stop, assess willingness to quit, assist in treatment, and arrange for follow-up.[21] When counseling patients to stop smoking and assessing their motivation to quit, it may be advisable to highlight the benefits of quitting (quitting smoking will reduce your risk of oral cancer), rather than the risks of continued smoking (continuing to smoke will increase your risk of oral cancer).

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