



Interactive Video Smoking Cessation Intervention

Grant Number: R44CA56240-03

Abbreviated Abstract

This project will produce an interactive videodisc based (IVD) smoking cessation system for use in medical office settings. The IVD system will assist providers in helping patients stop smoking by using an interactive smoking cessation program. This project will produce a stand alone kiosk with a printer that is suitable for use in medical offices. The IVD system offers several potential advantages over other approaches to smoking cessation, including lower personnel costs and increased efficiency and efficacy. The effectiveness of the IVD based intervention will be evaluated with 500 primary care patients in a randomized clinical trial with a "physician advice only" control condition.

Primary Investigator

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Dr. John Noell was a research scientist and the chief technical officer at the Oregon Center for Applied Science at the time of this grant. Dr. Noell has an extensive background in instructional design, behavior change, and the development of tailored interactive multimedia programs. Because of his experience in interactive technology, he was invited to serve as an expert on the Department of Health and Human Services Science Panel on Interactive Communication and Health. He is the principal investigator on this project.

Research Team & Affiliations

John Noell, Dennis Ary, Mona Deprey

Total Budget

\$00.00

Research Objectives

Aim 1: Develop separate intervention materials tailored to each of 12 Sub-populations, differing on each of three dimensions: race/ethnicity (i.e., Caucasian, African-American, Hispanic), gender, and age (under 40 years, 40 years and over).

Aim 2: Within each sub-population tailor the program content to patient stage of change (and smoking history).

Aim 3: Evaluate program in a randomized clinical trial.

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Theory/Hypothesis

The content of the program is divided into six major areas that are reviewed in succession. First, participants are presented with a section extolling the benefits of being smoke free. Second, participants see a section dealing with specific barriers to stopping smoking. Third, a section on how to deal with cravings for cigarettes is presented. Fourth, participants see a section on how to deal with the situations that prompt cravings. Fifth is a section encouraging smokers to enlist social support as they stop smoking. The sixth and final section asks smokers to set a quit date and offers them a personalized printed quit plan with calendar (showing the date they have chosen as their quit date), including tips from the previous five sections.

Experimental Design

Randomized clinical trial. Design factors were: experimental condition, gender, age, and race/ethnicity.

Final Sample Size & Study Demographics

A total of 388 subjects were referred to the kiosk program by a physician (164 African-American, 182 Caucasians, and 42 Hispanic or other ethnicity; 242 females and 146 males). A total of 243 subjects provided complete data for all three assessments (107 treatment and 136 controls).

Data Collection Methods

Seven clinics participated in the evaluation (three in Portland, Oregon; one in Eugene, Oregon, two in St. Louis, Missouri, and one in San Diego, California). Subjects were assessed at baseline, immediately post-intervention, and at three months post-intervention using on-screen questionnaires.

Outcome Measures

Primary measures included in this study are (a) stage of change, primarily measured with Abram's ladder item (Biener & Abrams, 1991); (b) current cigarette smoking rate (and pattern); (c) history of quit attempts; (d) self-efficacy for quitting; and (e) motivational level for quitting.

Evaluation Methods

Eligible smokers included all subjects who presented to the clinic, were identified as smokers, were at least 18 years of age, and who were African-American, Hispanic (bilingual, or monolingual English or Spanish-speaking), or Caucasian, female or male. Subjects were referred to the kiosks by participating physicians. Upon touching the screen, the kiosk program randomly assigned subjects to either the treatment or control condition. The kiosk program presented a statement of informed consent and explained it to the subject. If the subject agreed to participate, the program began.

For subjects in the control condition, the kiosk presented a (continuous) video based on the NCI smoking cessation booklet, "Clearing the Air." The contents were fully reviewed and the narrator (portraying an ex-smoker) "recommends" the booklet's tips. Treatment subjects received a unique presentation based on their demographics (i.e., race/ethnicity, gender, and age), language choice (i.e., English or Spanish), stage of change, and the choices they make throughout the program. Indeed, given the great number of alternative paths in the program, it is nearly certain that no two people ever see the exact same set of materials.



Research Results

The primary baseline to post-test measures were motivation to quit and self-efficacy (i.e., "confidence") for quitting. Based on difference scores (using one-tailed T-tests), the treatment condition was significantly more motivated and confident ($p=.004$ and $p=.045$, respectively). The two most critical follow-up measures were proportion of subjects who were abstinent and number of cigarettes smoked per day. The number of subjects who were abstinent at three months (10.3% for both conditions) was not significantly different by condition. However, treatment subjects were smoking significantly fewer cigarettes at follow-up ($p=.006$).

Barriers & Solutions

This was an early interactive laser disc program. There were many technical challenges that were solved.

Product(s) Developed from This Research

Healthy Habits Smoking Cessation Program