An Evaluation of the Freedom From Smoking® Online Cessation Program Among Wisconsin Residents

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ABSTRACT
Objective: To study the effectiveness of the American Lung Association’s Freedom From Smoking® Online cessation program in assisting Wisconsin residents to quit smoking.

Methods: Five hundred fifty-three Wisconsin residents who signed up for the American Lung Association’s Freedom From Smoking® Online cessation program over a 10-month period were solicited for participation. Of these, 80 individuals completed the initial survey (response rate 14.41%). Follow-up surveys were conducted 3, 6, 9, and 12 months after participants completed the program. Fifty-two participants completed the 3-month follow-up, 43 completed the 6-month follow-up, 38 completed the 9-month follow-up, and 36 completed the 12-month follow-up.

Results: Initial point prevalence rates or whether participants reported that they had smoked in the previous 24-hour period revealed a quit rate of 55%. Sustained abstinence or whether they reported that they had smoked in the previous 3-month period ranged between 28.8% (3 months after program completion) and 16.3% (1 year after program completion).

Conclusion: Quit rates compare favorably to current clinic-based smoking cessation programs. Given the low cost nature of an on-line cessation program and the ability to reach a wide audience, the evaluation undertaken of the American Lung Association’s Freedom From Smoking® Online cessation program revealed promising results.

INTRODUCTION
Smoking continues to be a devastating health and economic burden in America. Over 440,000 Americans die from diseases directly related to cigarette smoking each year. At present, smoking is responsible for 1 in 5 deaths in the United States and about half of all regular cigarette smokers will eventually be killed by their addiction. An estimated 4.5 million adolescents smoke cigarettes. Each day 3000 adolescents begin using tobacco and, of these, 2000 become established smokers. One third of them will die from a disease caused by smoking. The earlier someone quits smoking, the more years they can restore to their life expectancy. The economic costs of smoking are astronomical. Smoking-related diseases are conservatively estimated to cost the United States at least $150 billion each year in direct health care costs (hospital care, physician and other professional care, and medications) and lost productivity.

While smoking is a national problem, it is also a local one. Estimates indicate that there are 914,800 adult smokers in Wisconsin. Of these smokers, 7800 die annually. Furthermore, the economic cost to the state of Wisconsin is staggering. The annual health care cost in Wisconsin directly caused by smoking is $1.58 billion. Without a doubt, smoking is costly and efforts to evaluate the effectiveness of smoking cessation programs used in Wisconsin are of critical importance.

In an effort to curb the incidence of smoking, in 1975 the American Lung Association began researching and developing a smoking cessation clinic-based intervention as well as a self help intervention, both based on education and behavior modification principles. Three similar versions of the basic program (6, 7, and 9 weeks)
were evaluated a few years after its introduction. Results indicated that the 7-session clinic was the most successful; over 80% of the smokers quit during the clinic, and at the 12-month follow-up, 30% had not smoked for 1 month and 19% had not smoked since the end of the clinic. The outcome of this initiative was the original Freedom From Smoking® clinic program, which was introduced nationwide in 1981. Revised editions were released in 1984, 1991, 1993, and 1999.

In an effort to utilize the reach of the Internet and to capitalize on technological advances in computer processing technology, in 2001 the American Lung Association launched the Freedom From Smoking® Online cessation program, which incorporates many of the highly successful aspects of the American Lung Association clinic-based program. The program is unique insofar as it has the capability to attract an audience that heretofore has been excluded from participating in more traditional cessation programs. This includes individuals with limited mobility, such as the elderly, and those without access to transportation, as well as individuals in highly secluded (rural) areas, individuals with limited time in their schedules (e.g. early evening when most support groups meet) such as second shift workers and students, and individuals who prefer privacy.

In particular, the Freedom From Smoking® Online cessation program incorporates the components of the clinic-based program such as self-assessments, developing individual action plans, interacting with others through message boards, interacting with the local Lung Association, relaxation techniques (e.g. deep breathing), and education on developing an exercise program. The online cessation program includes 7 modules (each with about 4 lessons) through which participants work.

The online program provides individuals with increased access to the American Lung Association Freedom From Smoking® program. Participants have the benefit of “on demand” availability and anonymity when participating in the online program and receive the program free-of-cost. To date, over 100,000 people from 56 countries have signed up for the Freedom From Smoking® Online cessation program.

The highly innovative nature of this intervention, coupled with its potential to reach a large number of people, heightens the need for program assessment. At present, no attempt has been made to assess the effectiveness of the American Lung Association’s Freedom From Smoking® Online cessation program. The study presented here explores the quit rates associated with program completion among Wisconsin residents. Specifically, this study examines the extent to which program completion is related to (1) point prevalence rates or whether someone reports smoking in the previous 24-hour period, and (2) sustained abstinence rates or whether someone reports smoking in the previous 3-month period.

METHODS
Participants
Between mid-November 2001 and late September 2002, 553 individuals signed up for the Freedom From Smoking® Online cessation program in Wisconsin and were solicited for participation in the study with an incentive of receiving $20 for completing 5 brief surveys over a 1-year period. Of these, 80 individuals completed the initial survey, providing an initial response rate of 14.41%. With respect to the 3, 6, 9, and 12-month follow-up surveys, 52 completed the 3-month follow-up, 43 completed the 6-month follow-up, 38 completed the 9-month follow-up, and 36 completed the 12-month follow-up.

Demographic data were obtained from all of the 80 participants who completed the initial survey. According to participant self-reports, the average number of cigarettes smoked per day was 15.31 (SD=9.6). On average, participants started smoking at age 16.21 (SD=2.8) and have made 3.3 (SD=3.6) quit attempts to date. The longest period of time ever quitting in the past was 270.96 days (SD=408.36). Of the 60 individuals who provided information on their ethnicity, the vast majority (95%) identified themselves as white. Individuals aged 35-44 comprised the largest group of participants (32.5%), followed by those 26-34 years old (23.8%), 45-54 years old (18.8%), 55-64 years old (12.5%), under 26 years old (11.3%) and those 65 or older (1.3%). Finally, the majority of participants (61.3%) learned about FFS® Online via the Internet. Another 10% learned about the program through the American Lung Association, 6.3% each through a friend or the newspaper, and the remaining 16.3% heard through a health care facility (5%), work (3.8%), or by some alternative “other” means (7.5%).

Survey Instrument
Two questionnaires were created and used in this study. The first questionnaire was used immediately after participants reported completing the FFS® Online program. The second questionnaire was used at each subsequent data collection point, at 3, 6, 9, and 12-month intervals after completion of the FFS® Online program.
Both questionnaires were administered online and were accessible 24 hours a day from any computer with Internet access.

**Measurement of Variables**

**Point prevalence**—Point prevalence was measured though a single item measure in which participants were asked whether they had smoked in the 24-hour period prior to completing the survey. Answer options were limited to a “yes” or “no” response.

**Sustained abstinence**—Sustained abstinence was measured using a single item measure that asked participants whether they had smoked in the 3-month time period prior to completing the survey. Answer options were limited to a “yes” or “no” response.

**RESULTS**

This study sought to determine quit rates associated with point prevalence—whether people reported smoking in the last 24 hours—and sustained abstinence—whether people reported abstaining from smoking in the prior 3-month time period—for Wisconsin residents who completed the American Lung Association Freedom From Smoking® Online cessation program. For these data, point prevalence across the 5 time points was 55.0%, 37.5%, 28.8%, 23.8%, and 23.8%. In contrast, sustained abstinence rates for the 4 time points (3, 6, 9, and 12 months after completion of the program) were 28.8%, 17.5%, 17.5%, and 16.3% (Figure 1).

**DISCUSSION**

Results indicate that the end-of-program quit rate for participants in the American Lung Association Freedom From Smoking® Online cessation program is 55% (point prevalence at time of completion of program).

This rate compares favorably to the 52% end-of-program quit rate reported in a study of the American Lung Association Freedom From Smoking® clinic program as well as the 32% cessation rate reported in another internet-based cessation program. The sustained abstinence rate (defined as smoke-free between data collection points) as reported by study participants also compared favorably to rates reported in previous studies. The rate of sustained abstinence 3 months after program completion (28.8%), for example, exceeds the 20% 3-month quit rate for people called the Colorado QuitLine. The 16.3% sustained abstinence rate found 1 year after program completion is only slightly lower than the 17.9% 1-year sustained abstinence rate across 3 separate clinic-based programs.

In terms of limitations of this study, it should be determined whether or not individuals who did respond to the survey differ in any meaningful ways from individuals who did not respond to the survey. For example, individuals who successfully stopped smoking may be more likely to participate in the study than those who were not able to stop. If this is the case, then the quit rates presented here are inflated. Further, the fact that data was collected exclusively in Wisconsin may limit the extent to which results may be generalized to individuals in other states. Again, the ability to generalize is dependent on the extent to which these individuals are similar to (or different from) individuals residing outside Wisconsin.

One challenge that was faced and persisted throughout this study was in securing a sufficient sample size. Although the program was promoted aggressively and many efforts were made in extending recruitment letters to potential participants, the total sample size is small. The results obtained in this study must therefore be interpreted very cautiously. One reason for this is that data was only able to be collected on a small percentage of individuals that was recruited. Specifically, although 553 participants were solicited for participation, only 36 remained through the entire study. Future researchers engaged in similar longitudinal data collection should spend considerable time developing a strategy by which they can ensure participation from a large and representative pool of individuals.

Another study limitation concerns the fact that results are based only on self-report data and were not confirmed through other tests. Although reliance on this single method may lead to higher reported quit rates, past research studies indicate that the amount of exaggeration may be negligible.

Future research should consider factors that differ-
entially impact quit rates of individuals who participate in this program. For example, moderating factors such as the speed in which a person works through the self-paced program, the amount of suggested work that individuals complete while working through the program, the presence of support agents, and perceived efficacy could plausibly impact the successfulness of such online smoking cessation programs.

REFERENCES

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