

# Physician Counseling for Smoking Cessation: Is the Glass Half Empty?

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**Background.** Professional groups urge physicians to aggressively counsel their patients who smoke, but research evaluating the effectiveness of physician counseling has produced mixed results.

**Methods.** Four hundred ten smokers identified in a previous study were contacted 1 year later to determine whether they had quit smoking. In both studies, smokers were asked whether their physicians had counseled them in any of six specific ways (eg, advising the patient of personal health risks and the need to stop smoking, or discussing cessation methods).

**Results.** Seventy-nine percent of patients reported that their physician counseled them either at the initial visit or at some time during the following year; 42% reported

having tried to quit at least once during the year, but only 5.9% were nonsmokers at 1-year follow-up. Physician counseling had no effect on the rate of successful attempts to quit. Patients with serious health problems were more likely to be counseled and to attempt to quit ( $P < .02$ ). Non-Hispanic white patients were more likely to be counseled but less likely to attempt to quit ( $P < .01$ ).

**Conclusions.** Counseling by physicians appears to motivate some patients to attempt to quit, but this study did not show significant improvement in actual quit rates among patients who were counseled by a physician.

**Key words.** Smoking cessation; physician-patient relations; counseling. (*J Fam Pract* 1995; 40:148-152)

The costs to society of smoking-related disease and death are staggering. The American Academy of Family Physicians and other professional health care groups urge physicians to aggressively counsel their patients who smoke.<sup>1-5</sup>

Initial research has shown that physician advice can have a positive effect on patients' smoking status,<sup>6-8</sup> and more recent investigations have focused on developing effective training programs for physicians.<sup>9-12</sup> It was once believed that physicians were not counseling for smoking cessation because of a lack of training.<sup>13-15</sup> Therefore, educating physicians in effective smoking-cessation counseling techniques was expected to result in more frequent counseling, use of more effective techniques, and higher patient quit rates.<sup>16</sup> These assumptions have been the

basis for much of the research that has been conducted in the past decade, the results of which have been mixed.<sup>17-25</sup> In the majority of these studies, the physicians were not blinded to their participation in a research study, and the outcome measures varied widely.

To address these methodologic deficiencies, we conducted two studies. The first, reported elsewhere,<sup>12</sup> measured the effects of a brief training program in smoking-cessation counseling on family practice residents' behaviors. The resident physicians were not aware that their individual counseling behavior was being assessed. The results of that study indicated that a 3-hour training program in brief smoking-cessation counseling techniques produced an initial improvement in resident counseling behavior but no significant and long-standing change. A chart prompting system was also ineffective in maintaining any long-standing behavioral change.

The current study was undertaken to assess the smoking behavior of the population of smokers identified in the first study during the year following our initial contact with them. The purpose of this study was to

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determine whether they had been counseled to stop smoking by their physician, whether they had attempted to quit, and how many who tried to stop smoking had succeeded.

## Methods

In the original study, all adult patients of residents who had been trained in brief smoking-cessation counseling techniques were contacted by telephone or mail within 3 days of their clinic visits; 512 smokers were identified in this population. These patients were asked to complete a questionnaire that included information regarding their smoking habits and the performance of six physician counseling behaviors during their most recent clinic visit. These behaviors were (1) advising the patient of personal health risks and the need to stop smoking, (2) asking about patient feelings about stopping or cutting down, (3) asking about problems and benefits of quitting or cutting down, (4) discussing methods for stopping or reducing smoking, (5) giving self-help materials, and (6) scheduling a follow-up visit or telephone call to check progress in quitting. A patient was said to have been counseled if at least one of the six behaviors was reported.

In the current study, attempts were made to contact the 512 patients from the previous study at 1 year by either telephone or mail. On follow-up, current smokers were offered \$5 to complete a questionnaire. Individuals who indicated that they were now nonsmokers were paid \$25 to complete a face-to-face interview and have their nonsmoking status biochemically verified by carbon monoxide and saliva cotinine measurement.<sup>26</sup>

The questionnaire used in the mail, telephone, and face-to-face contacts requested information regarding age, race, past and current smoking history, number of quit attempts in the previous year and prior to the previous year, length of abstinence during each attempt, methods used, ease of attempts, presence of serious health problems, presence of household members who smoke, type of employment, presence of a workplace smoking policy, and the occurrence of any of the six physician counseling behaviors by their physician during the previous year. In addition, quitters were asked what factors influenced their decision to quit and what factors contributed to their success.

## Results

Four hundred ten subjects (80%) of the original 512 smokers included in the first study were successfully contacted. Seventy-six percent of the subjects were women,

81% were non-Hispanic whites, and 77% were between the ages of 18 and 45. The mean number of cigarettes smoked per day was 19, with 74% of subjects smoking a pack or less a day.

At follow-up, 32 (7.8%) of the 410 subjects had quit by self-report. Twenty-four subjects were willing to undergo biochemical verification and were confirmed as abstinent from smoking, for a quit rate of 5.9%. Forty-two percent of the subjects had tried to quit smoking at least once during the previous year. Of the 228 quit attempts reported, 60.5% stopped smoking "cold-turkey," 18.4% used a gradual reduction method, 9.2% used nicotine gum, and 4.4% switched brands to a brand lower in tar, nicotine, or both. Many reported using a combination of methods. Less than 5% of the smokers who attempted to quit used any formal program to aid cessation.

Slightly more than 52% of the current study sample (N=410) indicated that they had been counseled in smoking cessation by their physician during the first study. In this same sample population, 65.9% recalled having been counseled by their physicians during the ensuing year. Both data sets were then used to determine that 79% of the 410-patient sample reported having been counseled by their physician to quit smoking during the study periods, ie, at the initial visit, or during the ensuing year, or both. Only 390 of the 410 patients in the sample indicated whether they had tried to stop smoking. Of those who had been counseled, 49.2% reported having made quit attempts; 5.5% of the counseled group were biochemically verified as having quit. Among patients who had not been counseled, 41.6% reported having made quit attempts; 7.1% of the uncounseled group were biochemically verified as having quit. Thus, counseling by physicians did not significantly affect either the quit attempt rate ( $P=NS$ ) or the probability of successfully quitting ( $P=NS$ ).

Subjects with serious health problems were more likely than healthy subjects to have been counseled ( $P=.01$ ) and to have made an attempt to quit ( $P=.02$ ), but no more likely to have succeeded (Table 1). Non-Hispanic white subjects were more likely than others to have been counseled ( $P=.008$ ), but less likely to have made an attempt to quit ( $P=.008$ ) and no more likely to have succeeded (Table 2). No significant effects were found for sex, age, number of cigarettes smoked per day, age of smoking initiation, presence of household smokers, or workplace smoking policy. It should be noted that the power of some of these tests was low, especially regarding quit rates. For example, to detect the effect of counseling on the quit rate, the power was .06, and to detect the effect of counseling on attempting to quit was .19. To detect a 5% difference in quit rate between male and female subjects, the power would have been only 37%.<sup>27</sup>

Table 1. Effect of Presence of a Serious Health Problem on the Probability of Being Counseled About Smoking Cessation, the Quit Attempt Rate, and the Likelihood of Successfully Quitting at 1-Year Follow-up

Patient Variable	No. (%) of Patients					
	Who Were Counseled by a Physician During Study 1 or 2*		Who Tried to Quit During the Following Year†		Who Successfully Quit by 1-year Follow-up‡	
	Yes	No	Yes	No	Yes	No
Has serious health problem	78 (90)	9 (10)	51 (59)	36 (41)	7 (8)	80 (92)
Does not have serious health problem	233 (77)	68 (23)	134 (45)	167 (55)	17 (6)	284 (94)

NOTE: Some of the 410 patients in the sample did not provide a response to some of the survey items.

\* $\chi^2=6.363$ ;  $P=.01$ ; † $\chi^2=5.381$ ;  $P=.02$ ; ‡ $\chi^2=.669$ ;  $P=NS$ .

The physician counseling behavior most commonly reported by patients was the first of the six steps, with 75.4% of subjects reporting that their physician informed them of the effects of smoking on their health and advised them to stop. Other counseling behaviors occurred with the following frequency: 58% of subjects reported that their physicians asked them how they felt about stopping or cutting down; almost 54% said their physicians asked about problems or benefits associated with stopping or cutting down now; 37% said their physicians discussed methods of cessation; and 28% said their physicians gave them self-help materials; but only 18% said their physicians scheduled a follow-up visit or telephoned to check their progress.

## Discussion

One of the more surprising and positive aspects of our study is the finding that over three fourths of this outpatient clinic population had been counseled in smoking cessation by their physicians during the previous year. This figure is considerably higher than the 37.2% reported by the data from the Centers for Disease Control 1991 National Health Interview Survey—Health Promotion and Disease Prevention supplement<sup>28</sup> and higher than most other patient-reported rates published in the litera-

ture.<sup>29,30</sup> It is also surprising that most physicians went beyond mere advice-giving in their counseling.

Other results of our study support previously identified facts about smoking cessation in the general population. Almost one half of our population of subjects indicated their desire not to smoke, as evidenced by their attempts to quit during the year. Most of these individuals chose to stop smoking on their own without the aid of a formal cessation program, but only 12.9% of those making attempts were successful. These data are in accord with those in the review by Cohen et al<sup>31</sup> of studies of self-quiters.

Similar to the findings of Frank and associates<sup>29</sup> in the Stanford Five Cities Project, we found that the subjects' health and race were significantly associated with the occurrence of physician counseling. In our study, non-Hispanic white subjects and subjects with serious health problems were more likely to be counseled to quit smoking. Other predictors found by Frank et al (ie, sex, age, number of years smoking, and number of cigarettes smoked per day) were not significant in our population, possibly because of a lack of statistical power.

Given the assumptions on which this study was based, we would have expected an increase in patient attempts to quit smoking and cessation rates in our study population because of the unusually high physician coun-

Table 2. Effect of Race on the Probability of Being Counseled About Smoking Cessation, the Quit Attempt Rate, and the Likelihood of Successfully Quitting at 1-Year Follow-up

Patient Race	No. (%) of Patients					
	Who Were Counseled by Physician During Study 1 or 2*		Who Tried to Quit During the Following Year†		Who Successfully Quit by 1-year Follow-up‡	
	Yes	No	Yes	No	Yes	No
Non-Hispanic white	269 (82)	59 (18)	142 (45)	177 (55)	20 (6)	308 (94)
Other	52 (68)	24 (32)	44 (62)	27 (38)	4 (5)	72 (95)

NOTE: Some of the 410 patients in the sample did not provide a response to some of the survey items.

\* $\chi^2=6.982$ ;  $P=.008$ ; † $\chi^2=7.095$ ;  $P=.008$ ; ‡ $\chi^2=.077$ ;  $P=NS$ .

celing rates. Unfortunately, we saw neither an overall increase in the likelihood of quit attempts, nor an increase in the number of successful quitters. In some respects, these results are similar to those of other studies. Thompson and coworkers<sup>17</sup> found that the combination of physician counseling and self-help materials doubled the likelihood of a patient's attempt to quit but had no effect on smoking-cessation point prevalence at 8- to 9-month follow-up. In a study involving 66 physicians and 6053 patients, Kottke and colleagues<sup>18</sup> found no significant differences in quit rates among patients of physicians in three different intervention groups (smoking-cessation training and patient education materials, patient education materials only, and no assistance). They found that patients who were asked by their physicians to quit smoking reported more cessation attempts but no greater success. In two studies in which physicians were trained in smoking cessation counseling techniques, Cummings et al<sup>21,22</sup> found that while the training program substantially changed physician counseling behavior, it did not produce a significant increase in the cessation rate among their patients.

It is very difficult to assess the merit of the 5.9% verified quit rate and the 42% quit attempt rate seen in this population. We reviewed the published data from eight clinical control trials comparing the effect of physician training programs with that of usual care and control groups on cessation rates in patient populations. Successful cessation rates ranged from 2.6% to 16.2% in the intervention groups and from 1.5% to 14.3% in the usual care and control groups, with respective means of 9.2% and 5.9%.<sup>17-24</sup> Quit attempt rates were identified in seven of the studies and ranged from 35% to 71.9% for the intervention group and 17% to 44.7% in the usual care and control groups, with respective means of 48.4% and 38.4%.<sup>17,18,20-24</sup> Because results vary widely, it is not clear whether our patients were more likely to make attempts or to successfully quit than would be expected.

There are limitations to this study that must be considered in generalizing our results. First, the number of successful quitters, and therefore the statistical power of some of the tests, were quite small. Most of our findings, however, are similar to those found in numerous other studies. Second, because many of the physicians in our study were residents, the degree of continuity of care provided may be different from that found in nonteaching outpatient clinics, possibly affecting cessation rates. Third, the follow-up period of 1 year may have been insufficient to measure the effect of physician counseling on behavior. Prochaska and colleagues<sup>32</sup> point out that it may take a person years to progress through the stages of readiness until he or she is willing to commit to a plan for change, let alone succeed. Finally, the decision to quit smoking

and the capacity to succeed depend on many factors, only one of which is physician advice. Since our study used a longitudinal, observational design, the possibility of confounding cannot be ruled out.

In light of all the demands that are currently being placed on the patient-physician encounter, we believe the results of our study raise important questions that need to be addressed. Is physician counseling important, let alone sufficient, for patient smoking cessation? The accumulating evidence suggests that the glass is decidedly half full. Despite the considerable attention to this topic in the professional literature over the past 10 years, the increase in the number of physicians actually counseling patients for smoking cessation, and the development of effective and sophisticated counseling and pharmacological techniques, the impact on patient cessation remains small and quite variable. Perhaps, as health care professionals, we anticipated that this significant health problem could be easily solved by providing the appropriate knowledge to physicians and teaching them counseling techniques.

Physicians have easy access to the target population, but are they alone the best bearers of this message, and if so, how can they be most effective? In their article on physician responsibility in the initiation and maintenance of patient behavioral change, Kottke et al<sup>33</sup> noted two important points. First, physicians should not be expected to convince a patient to stop smoking. Physician responsibility is to evaluate, identify, advise, assist, and reinforce. Second, physicians must operate within a system that facilitates these behaviors. In our study, none of the clinics from which these patients were identified had a systematic approach to identify smokers and provide standardized support for smoking cessation other than a short-lived prompting cue system.

Time is one of the issues that often gets lost in our zeal to ensure physician counseling for smoking cessation, dietary changes, exercise, and behavior modification. Jaén and his colleagues<sup>34</sup> offer a model that views the medical encounter as involving competing demands, not all of which can be met. Rather than blaming the physician for poor compliance, this model recognizes the competing demands within the encounter and identifies which preventive efforts belong there and which would be better served by other resources. A frequently used argument for preventive counseling in the medical encounter is that taking time to counsel in the short run saves time in the long run. Most of the impact of counseling, however, is long term and may be less than previously thought. We would argue that more research is needed to clarify the many remaining issues in the area of physician counseling for smoking cessation. Relevant questions to address include: In terms of physician counseling and patient cessation rates, how much is enough to be effective? Would

offering patients messages crafted for different stages of readiness for change improve cessation rates? Would supportive office systems be more effective in changing patient behavior over the long run than having the physician spend 5 more minutes counseling every smoker? Would more effective workplace and community programs be a better utilization of preventive health resources?

With the prevalence of lifestyle illnesses in our society and potential health care reform that places increased emphasis on prevention and cost controls, these and other questions related to prevention and lifestyle behavior change are becoming more important.

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