
Large-Scale Study of Freedom from Smoking Clinics—Factors in Quitting

PAULA ROSENBAUM, MS
ROBERT O'SHEA, PhD

Ms. Rosenbaum is a Doctoral Candidate in epidemiology in the Department of Social and Preventive Medicine, School of Medicine and Biomedical Sciences, State University of New York at Buffalo. Dr. O'Shea is a Faculty Member in that department.

Tearsheet requests to Paula Rosenbaum, Department of Social and Preventive Medicine, School of Medicine and Biomedical Sciences, 270 Farber Hall, 3435 Main St., Buffalo, NY 14214.

Synopsis

The American Lung Association's Freedom From Smoking Clinics are widely available in the community and at the worksite for smokers who

ALTHOUGH THE LARGE MAJORITY of smokers who stop the habit do so on their own, as many as 2 million smokers per year use some kind of formal organized cessation program in their attempts to stop (1). Such programs, therefore, are part of health planning. A specific national health promotion objective for 1990, for example, was to have at least 35 percent of workers offered smoking cessation programs, either at their worksites or in their communities (2).

One formal group method available in many communities is the Freedom From Smoking Clinics (FFS) program of the American Lung Association (ALA). The association has conducted FFS clinics since 1981, following several years of program development and testing. Over the past decade, thousands of community and workplace clinics have been held, and the ALA program has established itself as one of the principal nonprofit community resources available to smokers who wish help.

Each FFS clinic is conducted by a trained group leader and consists of seven 1 1/2- to 2-hour sessions held over a 6-week period. The program uses a positive behavior change approach that is structured and systematic. Although it is offered through local associations, the program is stan-

wish the help of a formal group program in quitting the habit. Little has been published on their outcomes.

A study of 494 smokers attending 42 Freedom From Smoking Clinics in western New York State showed that 29 percent reported not smoking about 1 year after attending the clinic sessions. There was a wide range of quit rates over different clinics, but the rates were similar for men and women and for different age groups.

Those initially smoking less than one pack per day were more likely to be successful in quitting than heavier smokers. Quit rates were similar in work site groups and in the community clinics. Perceptions of having received group support at the clinic were also related to higher success rates.

Research on group composition and process might be a fruitful road to raising what seems to be a ceiling on the success of current techniques.

andardized by facilitators' guides and participants' manuals that are nationally available.

The initial clinic meeting provides information on the health effects of smoking. Session 2 deals primarily with the triggers for smoking and coping strategies. "Quit Night" occurs at the third session in order to provide support and encouragement to participants over their initial period of nonsmoking. Maintenance of the decision to quit is a key feature of the FFS program. Group process and support, insight, and various behavioral techniques, including methods of relaxation and coping with tension, are offered to help overcome nicotine dependence.

Despite the popularity of the FFS program, little evaluation of it appears in the literature. An unpublished ALA study, conducted during initial development of the program, found that 30 percent of 151 participants in the 7 clinic sessions had not smoked cigarettes in the past month when interviewed 12 months after the end of clinic; 19 percent reported complete abstinence over the year. These findings were based on self-reports.

A later ALA internal evaluation report, based on 135 clinics with a total of 2,126 participants held from 1982 through 1985, found a mean self-reported nonsmoking prevalence rate of 28.6 per-

cent. Nonsmoking prevalence was similarly defined as "the proportion of participants who were reported not smoking within the 30-day period prior to the 12 month followup contact."

In a recent article described as being the first in the literature, Lando and coworkers reported a comparative study that included FFS clinics (3). Of 363 FFS participants, 25 percent were found to have a self-reported 1-year point prevalence of quitting. The corresponding figure for 331 smokers using the American Cancer Society's Fresh Start program was 22 percent; among the 347 participants in clinics conducted by Lando, the rate was 29 percent. One-year sustained abstinence, with biochemical validation, was lower for all three approaches: 19 percent for FFS; 12 percent for Fresh Start; and 22 percent for Lando (3).

In another recent article, Bertera and colleagues compared costs and outcomes among participants in a Freedom From Smoking clinic with those in a companion self-help program. The self-reported quit rate at 18 months (point prevalence) for the 43 FFS clinic participants was 20.9 percent, while the 27 self-help participants had a quit rate of 11.1 percent (4).

Our report summarizes results of a 1-year followup of 494 smokers attending 42 Freedom From Smoking clinics that were held between October 1985 and June 1987 in the Buffalo area of western New York State. The report also examines the impact on cessation of specific aspects of the FFS method and the personal characteristics of the participants.

Methods

Participants were contacted and interviewed by telephone between 12 and 15 months after the final session of the clinic they attended. Each interview took approximately 10 minutes; virtually all were conducted by three interviewers. Interviewing began in March 1987 and ended in August 1988.

Open- and closed-ended questions covered several aspects of the clinic program, such as the presence of the buddy system, the literature on smoking given to participants, and the behavior modification techniques employed. Personal characteristics and specific problems encountered by the individual participants were also obtained. Additional comments made by the respondents over the course of the interview were recorded. Also available were certain data on participants gathered from ALA clinic records, including demographic information, smoking status at the start and at the

end of the clinic, and the number of clinics attended.

The worksite clinics in the Buffalo area summarized in this report consisted of seven 1-hour sessions using the techniques and procedures employed in the standard seven-session format previously described.

Descriptive tabulations and Chi-square analyses were calculated using the SPSS PC+ version 2.0 statistical package (5). A *P* value of ≤ 0.05 was considered statistically significant.

Results

Of the 42 clinics, 17 were at worksites. The others were held in various kinds of community centers, such as shopping centers, schools, health care facilities, or churches. The mean group size was 10 people, with a range of 3 to 27.

A total of 34 participants (7 percent) could not be reached after several attempts by telephone and mail. These people have been classed as "smokers" at 1 year in the analysis. An additional 80 persons (16 percent) refused the interview but did provide information on their current smoking status. The achieved sample included 380 of the 494 clinic participants, yielding a 77-percent response rate for the entire interview.

Participants' characteristics. The pooled sample from the 42 clinics contained 206 men (42 percent) and 288 women (58 percent) (table 1). The mean age was 42, with a range from 15 to 70 years. Of the 494 participants, 492 were cigarette smokers; two men smoked pipes. Participants tended to smoke heavily. The mean number of cigarettes per day was 28; 85 percent smoked one or more packs per day, while 30 percent reported smoking two or more packs per day.

Participants attended an average of five clinic sessions, with 32 percent attending all seven meetings scheduled.

Quit rates. A participant was defined as a quitter at 1 year if he or she had not smoked cigarettes for at least 1 month preceding the telephone interview. (The two pipe smokers were among those who quit.) The overall 1-year quit rate was 29 percent (144 of 494), with a range of 0 to 69 percent across the individual clinics. The overall quit rate at the worksite clinics was 30 percent (60 of 202); 29 percent (84 of 292) at the other clinics. The one-year quit rate for those not completing the whole interview was 22 percent (18 of 80).

Table 1. Characteristics of 494 participants in American Lung Association Freedom from Smoking Clinics

Characteristic	Number	Percent
Sex:		
Men.....	206	42
Women.....	288	58
Age (years):		
Mean.....	42	
Range.....	15-70	
Younger than 40.....	197	45
40-49.....	135	31
50 or older.....	106	24
Unknown.....	56	
Cigarette smokers.....	492	99
Pipe smokers.....	2	1
Mean number of cigarettes smoked baseline¹	28 per day	
Less than pack a day.....	70	15
1-1.9 packs per day.....	252	55
2 packs or more per day.....	136	30
Mean number sessions attended ...	5	
5 or more.....	358	72
All 7.....	157	32
7th session only.....	264	53
Quit rate at end of clinic.....	255	52
Quit rate at 1 year followup.....	144	29

¹ N = 458.

As shown in table 2, the quit rates did not differ by sex, with 30 percent of the men and 28 percent of the women quitting. Age also did not appear to matter. The mean age among quitters was 41 years; among those who continued to smoke it was 42 years. Quit rates were not correlated with the size of the individual clinics.

The quit rate did vary by the number of cigarettes the participant smoked at the beginning of the clinic. Those smoking less than one pack a day had a quit rate of 50 percent (35 of 70); for those smoking more than a pack a day, it was 26 percent (100 of 388). Quitters had smoked an average of 25 cigarettes per day at their first clinic session, compared with 29 cigarettes a day for those who continued to smoke at 1 year. The difference between the median number of cigarettes smoked at baseline was 20 a day for the quitters and 30 for those still smoking at 1 year.

Attendance at clinic meetings seemed associated with success in smoking cessation. The median number of sessions attended by those who had quit at 1 year was 6, compared with 5 for those who continued to smoke. The final clinic meeting itself seemed pertinent, with a 1-year quit rate of 37 percent (97 of 264) among those attending versus a quit rate of 20 percent (47 of 230) for those not attending the last scheduled session.

Although not statistically significant, clinic attendance and the number of cigarettes smoked at the beginning of the program seemed to be interrelated. Of the people who smoked less than one pack of cigarettes a day, 79 percent (55 of 70) attended five or more clinic sessions. That compared with 74 percent (187 of 252) of those smoking from 1 to 1.9 packs and 69 percent (94 of 136) of those smoking 2 or more packs per day.

The FFS protocol calls for participants to quit smoking within the period of the FFS sessions. By the end of their clinics, 52 percent (255 of 494) had done so. Having quit during the clinic was clearly related to being quit one year later. Of those who were quitters at 1 year, 83 percent (119 of 144) had stopped smoking by their seventh clinic session. The majority of those smoking at 1 year had not quit during the clinic period. Only 39 percent (136 of 350) of those found to be smoking at 1 year had quit during their clinics.

Effects of program components on quitting. Several questions on the followup survey instrument dealt with specific aspects of the Freedom From Smoking program. One open ended question asked: "Can you remember anything that was particularly helpful from the clinic you attended?" Table 3 lists the several program elements named in answer to this question. Group support was identified by 40 percent (153 of 382). The presence of others with the same problem was the next most frequently cited aspect (25 percent), followed by getting ideas for quitting (11 percent).

With the exception of group support, none of the factors identified by respondents as important aspects of the clinic appeared to have much influence on smoking cessation. Those who did not report anything as particularly helpful in the clinic program, however, seemed less likely to quit than those who mentioned some aspect as beneficial. The quit rate was 20 percent (9 of 45) compared with 35 percent (118 of 337) ($P=0.06$) for those who did report something helpful.

As shown in table 2, those who cited group support as an important factor had a 40-percent (61 of 153) quit rate, while those not citing group support had a quit rate of 29 percent (66 of 229). Although similar frequencies of men—36 percent (55 of 152)—and women—43 percent (98 of 230)—reported group support as one of the helpful aspects of the clinic, women were more likely than men to quit if group support was identified as an important element of the clinic. The quit rate for women who mentioned the presence of group

support was 43 percent (42 of 98) compared with a quit rate of 26 percent (34 of 132) for women not citing it. Among men, the quit rates were equal (34 or 33 percent) for those citing or not citing the presence of group support as an important aspect of the clinic program. (The contingency table analyses with sex differences are shown in table 4.)

Another aspect examined was the clinic's buddy system, under which another group member provided support outside of the clinic meetings. Nearly all the respondents reported being aware of the clinic's buddy system, although only 52 percent (196 of 377) stated that they themselves had a "buddy" within their group. Here, also, sex seemed relevant. The quit rates for men with a group buddy were 45 percent (32 of 71), while it was 23 percent (18 of 77) for those without a buddy. The opposite was observed in women, however. Those with a buddy had a quit rate of 27 percent (34 of 125), compared with 40 percent (42 of 104) for those without buddies. Sixty percent of the men and women with a buddy reported that they knew the buddy before the clinic meetings began.

Some other influences on quitting. The impact on cessation of having other smokers within their social network of family members, friends, and coworkers was also examined. Having at least one family member who smoked appeared to affect adversely the ability to quit. Of those without a smoker in the family, 38 percent (73 of 191) were able to quit, while only 28 percent (53 of 187) of those reporting one or more smokers in the family were among the quitters. Here, again, sex made a difference; 42 percent (35 of 83) of men without a smoker in the family quit, compared with 23 percent (15 of 66) of men with at least one smoker in the family. Women were equally likely to quit in the presence and absence of other smokers in the family.

Having friends who smoked also appeared to have an adverse effect on the ability to quit smoking, although 88 percent (334 of 378) of the total group reported at least one friend who smoked. Among those without a friend who smoked, 52 percent quit (23 of 44), compared with 31 percent (103 of 334) of those who reported at least one friend who smoked. These percentages were similar for both men and women. Smoking status of coworkers did not appear to influence smoking cessation rates.

People attempting to quit smoking often encounter numerous physical and psychological problems.

Table 2. Correlates of outcome at 1 year followup on participants in American Lung Association Freedom from Smoking Clinics

Correlate	Stopped smoking		Continued smoking		Total in category
	Number	Percent	Number	Percent	
Sex:					
Men.....	62	30	144	70	206
Women.....	82	28	206	72	288
Age (years):					
Mean	41		42		
49 or younger.....	105	32	227	68	332
50 or older	26	25	80	75	106
Mean number cigarettes smoked per day baseline¹					
Less than 1 pack per day	35	50	35	50	70
1 pack per day or more.....	100	26	288	74	388
Mean number sessions attended²					
4 or fewer	27	20	109	80	136
5 or more	117	33	241	67	358
All 7	66	42	91	58	157
Attended 7th session²:					
Yes	97	37	167	63	264
No.....	47	20	183	80	230
Group support helpful¹:					
Yes	61	40	92	60	153
No.....	66	29	163	71	229
Had a clinic buddy:					
Yes	66	34	130	66	196
No.....	60	33	121	67	181
Tried to overcome problems²:					
Yes	108	39	170	61	278
No.....	16	16	83	84	99
Had at least 1 smoker in family:					
Yes	53	28	134	72	187
No.....	73	38	118	62	191
Had at least 1 smoker among friends²:					
Yes	103	31	231	69	334
No.....	23	52	21	48	44

¹P ≤ 0.05. ²P ≤ 0.01.

Participants who said they tried to overcome their problems in quitting, probably a measure of personal motivation for quitting, had a quit rate of 39 percent (108 of 278) at one year. Those who did nothing to overcome their problems had a rate of 16 percent (16 of 99).

Discussion

This study relied on self-reports of smoking status without biochemical or other validation. While this may have introduced some over-reporting of cessation, some studies have shown

Table 3. Most helpful aspects of the American Lung Association Freedom from Smoking Clinics¹

Component	Number	Percent
Group support	153	40
Others with same problem	94	25
Nothing	45	12
Ideas for quitting	41	11
Activities of leader	34	9
The film	35	9
Facts about smoking	30	8
The tape	26	7
ALA booklet	27	7
Coping strategies	22	6
Encouragement of others	24	6
Buddy system	21	6
Leader a former smoker	17	4
Triggers for smoking	16	4
Other factors listed by less than 4 percent of respondents	111	29

¹Data available on 383 participants, response not limited to 1 category.

Table 4. Quit rates by sex for correlates of American Lung Association Freedom from Smoking Clinics

Correlate	Among men		Among women	
	Number	Percent	Number	Percent
Group support helpful:				
Yes	19 of 55	34	¹ 42 of 98	43
No	32 of 97	33	34 of 132	26
Had a buddy in clinic:				
Yes	¹ 32 of 71	45	² 34 of 125	27
No	18 of 77	23	42 of 104	40
Had at least 1 smoker in family:				
Yes	² 15 of 66	23	38 of 121	31
No	35 of 83	42	38 of 108	35

¹P ≤ .01. ²P ≤ .05.

that the amount of bias introduced may be fairly small (3,6).

In any case, the overall quit rate achieved by participants in these FFS clinics was almost identical with the one found in the ALA's unpublished study that also used self-reports and a comparable definition of quitting (percent not smoking during the month preceding the 1-year followup). It is also similar to the median quit rate of 28 percent reported by Schwartz for group methods in his extensive review of smoking cessation trials (7).

Participants who attended a greater number of the clinic's sessions were more likely to quit than those who attended fewer. This impact of faithful clinic attendance on successful quitting permits various interpretations. People can hardly benefit

from a program if they are not present. The factor of attendance is complicated, however. It may reflect motivation to quit. It is also possibly related to the degree of addiction. People who smoked less at the start of the clinic were more likely to attend a greater number of sessions. It is possible that those who believed that they were unsuccessful in their effort to quit were more likely to give up on the clinic.

The buddy system and general group support are features of the FFS program. In the clinics studied, the buddy system appeared to work for men but not for women. This differential impact seems counterintuitive and may have occurred by chance. Buddies tended to be of the same sex and were often acquainted before joining the FFS clinic. Unfortunately, we could not assess differences in the success of quitting among buddy pairs.

Group support was positively associated with smoking cessation in participants attending the FFS clinics. This finding is consistent with an earlier report by Etringer and colleagues in which subjects exposed to an enriched cohesion environment were more successful in modifying their smoking behavior (8). The different impact of group support for women and men, where women seem to benefit but men do not, is another and contrary finding that deserves more research.

Another social variable, the presence of another smoker in the household, evidently also impacts differently on the sexes. Men appear more severely affected; men living in a household where they are the only smoker are twice as likely to quit as those men who have another family member who smokes. The presence of another smoker seems to make little difference in quitting for women. One speculation may be that women have more power to influence the men in their families than vice versa.

The importance of understanding specific dynamics of the clinic, including attendance or any other characteristic that predicts ultimate quitting outcomes, rests in the obvious opportunity for the program to do something special for those participants whose clinic behavior suggests they are at particular risk, and to do it while they are still within hailing distance. For example, persons at higher risk of failure might be recruited into an additional or different intervention.

The repeated finding of similar magnitudes of results from current group methods seems to suggest a ceiling effect. To raise the quit rates in various programs using group methods, research into participants' careers, on group events, and on

other elements in the change groups themselves is a clear need. The very wide range of success across the groups we studied may be in part an artifact of small numbers and random events. There is good reason to believe, however, that there are such things as effective leaders and effective groups. Characteristics of leaders, such as their previous experience, their own status as ex- or never-smokers, and characteristics of groups, such as their size, homogeneity, social composition, and quality of interaction, are more than theoretically interesting. If the 30 percent quit rate ceiling that is widely reported in formal clinic programs is to be pierced, further study of the groups themselves seems called for.

References.....

1. Fiore, M. G., et al.: Methods used to quit smoking in the United States, do cessation programs help? *JAMA* 263: 2760-2765, May 23-30, 1990.

2. Prevention profile. Health United States, 1989. Publication No. PHS 90-1232, National Center for Health Statistics, Hyattsville, MD, 1990.

3. Lando, H. A., McGovern, P. G., Barrios, F. X., and Etringer, S. D.: Comparative evaluation of American Cancer Society and American Lung Association smoking cessation clinics. *Am J Public Health* 80: 554-559 (1990).

4. Bertera, R. L., Oehl, L. K., and Telepchak, J. M.: Self-help versus group approaches to smoking cessation in the work place: eighteen-month follow-up and cost analysis. *Am J Health Promot* 4: 187-192 (1990).

5. Norusis, M.: SPSS/PC+ V.2.0 base manual. SPSS Inc., Chicago, 1988.

6. Petitti, D., Friedman, G., and Kahn, W.: Accuracy of information on smoking habits provided on self-administered research questionnaires. *Am J Public Health* 71: 308-311 (1981).

7. Schwartz, J. L.: Review and evaluation of smoking cessation methods: United States and Canada, 1978-1985. NIH Publication No. 87-2940, National Cancer Institute, Bethesda, MD, April 1987.

8. Etringer, B. D., Gregory, V. R., and Lando, H. A.: Influence of group cohesion on the behavioral treatment of smoking. *J Consult Clin Psychol* 52 :1080-1086 (1984).

The Uncounted Dead—American Civilians Dying Overseas

TIMOTHY D. BAKER, MD
STEPHEN W. HARGARTEN, MD
KATHARINE S. GUPTILL, ScD

Dr. Baker is Professor, Johns Hopkins University School of Public Health, Department of International Health, 615 North Wolfe St., Baltimore, MD 21205. Dr. Hargarten is Assistant Clinical Professor, Medical College of Wisconsin, St. Luke's Hospital Travel Clinic, Milwaukee. Dr. Guptill is a post Doctoral Fellow with the University of California, Department of Nutritional Sciences, Berkeley, CA.
Tearsheet requests to Dr. Baker.

Synopsis.....

The Federal Government, U.S. physicians, their patients who travel, insurance companies, the travel industry, and multinational corporations should know the health hazards facing Americans over-

seas. However, the deaths overseas of almost 5,000 Americans every year have never been analyzed.

A previously unreported, unexamined data source is analyzed by cause, sex, age, length of stay, and country of death of Americans dying overseas. The major findings are

1. *Most Americans who die overseas die in the developed countries of Western Europe, where most Americans live or visit. The patterns of deaths in these countries are similar to death patterns in the United States.*
2. *Surprisingly, the deaths of Americans in less developed countries are not from infectious and tropical disease, as many health professionals would expect, but are from chronic diseases, injuries, suicides, and homicides.*

The importance of these findings for the Federal Government, travelers' clinics, insurance companies, multinational corporations, and Americans living and traveling overseas is discussed.

Approximately 5,000 Americans die overseas each year. These deaths are not recorded or analyzed by the National Center for Health Statistics (NCHS)

according to a personal communication from Dr. Harry Rosenberg, Division of Vital Statistics, NCHS, in October 1986. These deaths are, how