

## Evaluation of the Amount of Therapist Contact in a Smoking Cessation Program

María del Pilar García  
University of La Coruña

Elisardo Becoña  
University of Santiago de Compostela

This research tested a multicomponent self-help manual that contained nicotine fading and some behavioral techniques. It also evaluated the incremental effects of using higher amounts of therapist contact on quitting rates. 114 smokers were randomly assigned to one of four treatment groups: (1) A 10-session multicomponent program ( $n = 25$ ); (2) a 5-session multicomponent program ( $n = 31$ ); (3) a 5-session multicomponent plus a self-help manual program ( $n = 25$ ); and (4) a self-help-manual-only program ( $n = 33$ ). A control group ( $n = 48$ ) did not receive any treatment. The distinctive characteristic of the treatments was the different amount of therapist contact. Common components of the programs were a refundable deposit, self-monitoring, information on smoking, stimulus control, CO feedback, nicotine fading, and strategies to avoid withdrawal symptoms. End-of-treatment quit rates ranged from 36% (self-help manual) to 68% (10-session multicomponent program). At 12-month follow-up there were significant differences between groups, and the most effective group was the 5-session plus manual group, with an abstinence rate of 48%.

*Key words:* smoking, multicomponent program, behavioral, self-help

*En esta investigación se ha evaluado un manual multicomponente de autoayuda para dejar de fumar. Este manual incluye un programa basado en la reducción gradual de nicotina y alquitrán, junto con otras técnicas conductuales. También se ha evaluado el efecto que sobre las tasas de abstinencia tiene incrementar el contacto terapéutico. Se asignaron al azar 114 fumadores a los siguientes grupos de tratamiento: (1) programa multicomponente con 10 sesiones ( $n = 25$ ); (2) programa multicomponente con 5 sesiones ( $n = 31$ ); (3) programa multicomponente con 5 sesiones y manual de autoayuda ( $n = 25$ ); (4) manual de autoayuda ( $n = 33$ ). Además hubo un grupo control ( $n = 48$ ) que no recibió ningún tratamiento. Los grupos diferían entre sí en la cantidad de contacto terapéutico. El programa incluía: un depósito recuperable, autorregistros, información sobre el tabaco, control de estímulos, retroalimentación del nivel de monóxido de carbono (CO), reducción gradual de nicotina y estrategias para evitar el síndrome de abstinencia. La tasa de abstinencia al final del tratamiento osciló entre el 36% (grupo sólo con manual) y el 68% (grupo con 10 sesiones). A los 12 meses de seguimiento hubo diferencias estadísticamente significativas entre los grupos, siendo el tratamiento más efectivo el del grupo con 5 sesiones y manual, con un 48% de abstinencia.*

*Palabras clave:* tabaco, programa multicomponente, conductual, autoayuda

---

This research was supported by Grant PB-90-0368 from the Dirección General de Investigación Científica y Técnica (DGICYT) of the Ministry of Education and Science, Spain.

Correspondence should be addressed to María del Pilar García, Universidad de La Coruña, Departamento de Psicología, Campus de Elviña. 15071 La Coruña (Spain). Fax: (+34) 981 167153. e-mail: mpgarcia@udc.es

It is well documented that currently, most smokers who quit do so without the assistance of a formal smoking cessation program (Cohen et al., 1989; Schachter, 1982). Moreover, the majority of those who wish to abandon the habit would prefer "do-it-yourself" methods to attending smoking clinic programs (Fiore et al. 1990, U.S.D.H.H., 1988). Therefore, it is very important to develop self-help methods to enable smokers to quit on their own.

Self-help smoking cessation manuals have therefore received greater attention from researchers in the last few years. These manuals usually include information about the risks of smoking, the benefits of quitting, and some concrete suggestions of how to achieve the goal of quitting (Hallet, 1986). They can be either totally self-administered, as in Curry, Wagner, and Grothaus (1991), or presented with minimal therapist contact in order to promote the potential benefits of personal contact, as in Orleans et al. (1991). Besides written manuals, in the last few years, more attention has been paid to various self-help modalities, namely telephone contact, correspondence courses, video- and computer-based interactive programs.

There are several potential benefits of self-help methods that employ written materials. For example, they can be delivered to a wider audience than group programs and long-term maintenance of the results of the treatment program can be improved (Curry, 1993; Glasgow, Schafer, & O'Neill, 1981). This is of crucial importance, given that relapse is the main problem in the treatment of addictive behaviors. Also, their cost-effectiveness is much better than formal programs (Altman, Flora, Fortman, & Farquhar, 1987; Davis, Faust, & Ordentlich, 1984). Lastly, self-help materials in a clinical setting can complement and reinforce the treatment sessions (García & Becoña, 1993; Glynn, Boyd, & Gruman, 1990).

This method, nevertheless, has the disadvantage of having lower success rates than treatments involving higher therapist contact, as is supported by findings that show that treatment length is associated with superior outcomes in smoking cessation (e.g., Bajlle, Mattick, & Webster, 1990; Brandon, Zelman, & Baker, 1987; Zhu et al., 1996). However, other research shows that the group format advantage does not persist over time (e.g., Curry, Marlatt, Gordon, & Baer, 1988; Omen et al., 1988; Prochaska, DiClemente, Velicer, & Rossi, 1993). Curry (1993) suggested that long-term equivalence in the cessation rates of group and self-help formats resulted from increases over time in the quit rates of self-help programs, as well as from high post-treatment relapse rates in group programs.

Despite much research in this field in English-speaking countries, a properly evaluated, local, self-help manual has not yet been developed and tested in Spain, although there are translations (Pomerleau & Pomerleau, 1981) and manuals written in Spanish that have not yet been tested (Gil Roales-Nieto & Calero García, 1992).

We examined the effectiveness of a multicomponent behavioral self-help manual, administered under the

following conditions: (a) minimal therapist contact and (b) therapist administered. We also evaluated the effects on quitting rates of increasingly higher amounts of therapist contact. The techniques in the manual were the same as the techniques administered in a clinically based multi-session treatment program.

## Method

### *Participants*

One hundred and sixty two participants (78 men and 84 women) volunteered to participate in a multi-session program for smoking cessation. The smokers were recruited by press and radio advertisements in Santiago de Compostela, Spain. These offered a free behavioral smoking-cessation treatment, lasting approximately one month. The participants' mean age was 32.2 years ( $SD = 9.5$ , range 19 to 64). 63.9% of the participants had received university education, 26.5% secondary education, and 9.5% only primary education. Average pretreatment cigarette consumption was 26.1 per day ( $SD = 11.2$ ), and the self-monitored mean baseline rate, measured over a 15-day period, was 18.9 per day ( $SD = 8.7$ ); 84% of the participants smoked high-nicotine high-tar brands, 11% mild brands, and 5% light brands.

Admission criteria to the program were as follows: (a) participants were requested to sign a consent form; (b) prior to treatment, they smoked at least 10 cigarettes per day; (c) they were requested to pay a deposit of 6.000 pesetas (\$45) if they were currently employed, or 3.000 pesetas (\$23) if unemployed; and (d) they were requested to attend at least the first session of the program. The participants also submitted the names of two informants who were familiar with their smoking habits. The informants were requested to give written consent to being contacted for follow-up.

### *Procedure*

Before treatment, each subject completed a brief questionnaire on demographic and smoking history, general health, and several scales on smoking pattern, motivation to quit, and degree of addiction. Their carbon monoxide levels were also measured. Participants were then randomly assigned to one of four treatment groups: (1) a 10-session multicomponent package group, composed of 25 participants (12 men and 13 women); (2) a 5-session multicomponent package group, consisting of 31 participants (14 men and 17 women); (3) a 5-session multicomponent package plus a self-help manual group, made up of 25 participants (9 men and 16 women); and (4) a self-help manual group, composed of 33 participants (15 men and 18 women). The control group was made up of 48 participants (20 men and 28 women), who attended an information session but did not receive any treatment session.

The number of participants was different in each treatment group because they were randomly assigned to the groups after they had attended an information session. However, some of these individuals did not attend any treatment session and were therefore not considered part of the treatment groups.

A psychologist with experience in smoking cessation (M.P.G.) applied the treatments. Two graduate research students measured expired carbon monoxide.

Treatment sessions lasted approximately one hour, and the participants were treated in groups of 7 to 16 people. In Treatment 1, the frequency of the sessions was two per week for five weeks. In Treatments 2 and 3, the frequency was one per week for five weeks. Treatment 4 involved only one orientation session. At the end of each session, the participants were given record sheets to self-monitor their smoking behavior during the following week.

The 125-page cessation manual, entitled "Programa para Dejar de Fumar" ([Stop Smoking Program]; Becoña, 1993), was designed to lead to complete cessation on the 4th week of the 5-week program, with an option to quit sooner if the smoker so desired. The manual was made up of five units, each unit designed to correspond with one of the five treatment weeks. The techniques in the manual were the same as the techniques in the formal treatment, and included specific exercises for the smoker to carry out (e.g., listing reasons for not smoking and for smoking).

Follow-up questionnaires were used to assess smoking status, strength of urge to smoke, weight changes, environmental pressures or support for abstinence, and reasons for relapsing.

### *Treatment*

All four treatments had in common the following components. (a) A motivational contract, i.e., a refundable guarantee was deposited at the beginning of treatment. (b) Self-monitoring of smoking behavior was performed during a pre-treatment baseline period and during treatment; self-monitoring included plotting daily cigarette consumption on a graph. (c) Information on smoking was provided. (d) Stimulus control was implemented. After the first session, the participants were supposed to comply with several rules aimed at reducing tobacco consumption. These included not smoking the final third of the cigarette, not accepting cigarettes offered by other people, only putting the cigarette in their mouth for actual inhalation, and taking fewer drags on each cigarette. In the second and subsequent weeks, participants were asked not to smoke in a progressively greater number of situations that act as stimuli-e.g., while making telephone calls, reading, studying, watching television, driving, working, having coffee, after breakfast, or in a bar. The stimuli were specifically established for each smoker during the base-line period. (e) Nicotine fading and cigarette fading: by changing brand two or three times, nicotine content was successively reduced by 25, 50, and

75%, respectively, of the original level, and this was followed in subsequent sessions by cigarette fading (Foxy & Brown, 1979). (f) Physiological feedback (expired carbon monoxide). (g) Strategies to prevent relapse and progressive self-control of smoking behavior were emphasized as being essential for final success in giving up smoking.

The distinctive characteristic of the treatments was the different amount of therapist contact. Participants in Treatment 2 were asked to read and complete one of the five units in the manual corresponding to a certain session before that particular session. Participants in Treatment 4 were asked to complete one of the five units of the manual every week and to come back for evaluation of their smoking status after the five weeks.

All participants were asked to abstain from smoking 24 hours before the last treatment day, although they could try to stop before, if they wished to.

### *Follow-up procedures and definitions of nonsmoking*

Follow-up sessions were carried out one, two, three, six, and twelve months after the end of treatment. Each follow-up meeting lasted approximately 30 minutes. Participants who did not attend these meetings were sent a questionnaire by mail. The task of the interviewer was simply to collect data but not to encourage participants in their efforts to quit smoking. Abstinence was corroborated with an EC50 expired carbon monoxide indicator (Belfont Instruments) with a cut-point of 8 ppm. A questionnaire was also sent to each participant's informant to verify his or her self-reports.

Using the National Heart, Lung, and Blood Institute's consensus conference definitions of prevalent abstinence (Ossip-Klein, Parker, Bigelow, Curry, & Kirkland, 1986), end-of-treatment nonsmoking prevalence was defined by participants' self-reports (verified by informants) of not smoking (not even a puff) any cigarettes, pipes, or cigars within the past 24 hours, and by their CO level being less than 8 ppm. In the follow-up sessions, nonsmoking prevalence was defined by participants' self-reports (verified by informants) of not smoking any cigarettes, cigars, or pipes in the past seven days and their CO expired air (when available) being less than 8 ppm.

Participants who could not be reached for follow-up and whose informants could not be contacted were classified as smokers, and were considered to be smoking the same number of cigarettes they consumed at the baseline.

### *Results*

There were no statistically significant differences among the number of cigarettes smoked before treatment, baseline smoking, age, sex, years of smoking, nicotine content of the brand smoked, previous abstinence (in months), and number of previous attempts to stop smoking, motivation

to quit, alcohol and coffee-consumption, self-esteem measured by the Rosenberg scale (Rosenberg, 1965), and smoking self-efficacy (Condiotte & Lichtenstein, 1981) before treatment. The experimental groups differed in nicotine dependence,  $F(3, 113) = 2.9$ ,  $p < .05$ , as measured by the Fagerström Tolerance Questionnaire (Fagerström, 1978), the 10-session group having the highest score (see Table 1). Nevertheless, we performed a post hoc Holm

contrast to confirm possible group differences in nicotine dependence. When several contrasts are carried out (specifically, we carried out 14), the Holm contrast reveals whether the significance of the contrasts is real or, on the contrary, is random (Holland & Copenhaver, 1988). The results of the Holm test did not confirm the existence of significant group differences in the variable nicotine dependence.

Table 1

*Means and Standard Deviations of Demographic and Smoking-Related Variables, and Analyses of Variance*

VARIABLES	GROUPS					<i>F</i>	
	10-Session	5-Session	5-Session + Manual	Manual Only	Control		
	<i>n</i> = 25 <i>M</i> = 12 <i>W</i> = 13	<i>n</i> = 31 <i>M</i> = 14 <i>W</i> = 17	<i>n</i> = 25 <i>M</i> = 9 <i>W</i> = 16	<i>n</i> = 33 <i>M</i> = 15 <i>W</i> = 18	<i>n</i> = 48 <i>M</i> = 20 <i>W</i> = 28		
Cigarettes/day before treatment	<i>M</i>	29.44	25.67	25.04	25.80	5.53	0.99
	<i>SD</i>	8.97	7.64	10.23	9.52	9.52	
Nicotine content (mg)	<i>M</i>	2.80	2.80	2.84	2.75	2.87	0.27
	<i>SD</i>	0.50	0.47	0.47	0.71	0.44	
Age	<i>M</i>	32.00	30.93	32.48	35.45	30.87	1.33
	<i>SD</i>	8.50	10.47	9.54	10.19	8.81	
Years of smoking	<i>M</i>	16.64	12.96	13.88	17.00	14.53	1.13
	<i>SD</i>	8.07	7.98	8.43	9.72	5.84	
Previous quitting attempts	<i>M</i>	2.48	2.32	1.96	2.25	1.40	1.19
	<i>SD</i>	2.91	2.85	2.16	2.61	1.63	
Previous abstinence (months)	<i>M</i>	1.56	3.06	3.80	3.30	3.50	0.58
	<i>SD</i>	3.25	5.96	6.48	5.56	7.20	
Motivation for quitting smoking	<i>M</i>	8.08	7.09	8.60	7.69	7.81	1.88
	<i>SD</i>	1.86	2.34	1.11	2.17	2.40	
Beer per day (N° of glasses)	<i>M</i>	1.16	0.41	0.28	0.27	0.27	2.17
	<i>SD</i>	2.37	1.38	0.73	0.73	0.76	
Wine per day (N° of glasses)	<i>M</i>	0.64	0.09	0.52	0.39	0.88	0.23
	<i>SD</i>	1.22	0.30	1.08	1.27	2.08	
Spirits per day (N° of glasses)	<i>M</i>	0.04	0.06	0.04	0.06	0.11	0.97
	<i>SD</i>	0.20	0.35	0.20	0.24	0.43	
Coffee per day (N° of cups)	<i>M</i>	2.44	2.12	2.52	2.39	3.10	0.07
	<i>SD</i>	2.39	1.92	2.00	1.86	2.58	
Nicotine dependence	<i>M</i>	8.08	7.25	6.80	6.84	7.00	2.90*
	<i>SD</i>	1.80	1.63	1.60	2.00	1.53	
Self-esteem	<i>M</i>	25.00	24.25	24.80	22.90	23.25	1.76
	<i>SD</i>	2.69	3.87	4.50	4.14	4.35	
Smoking self-efficacy	<i>M</i>	215.00	186.90	198.04	227.30	212.00	1.49
	<i>SD</i>	60.06	56.84	103.57	95.13	65.08	

Note. *M* and *W* beneath the *n* of the various groups stand for Men and Women, respectively.

\* $p < .05$ .

### Nonsmoking prevalence

At the end of the treatment, the abstinence rates were as follows: 68% in the 10-session group; 58% in the 5-session group; 60% in the 5-session plus manual group, and 36.3% in the manual group (see Table 2). At the 6-month follow-up, the abstinence rates were 24, 38.7, 44, and 15.1%, respectively. At the 12-month follow-up, abstinence rates were 16, 38.7, 48, and 15.1%, respectively. The control group had a 0% abstinence rate at the end of the treatment and 2% at the 6 and 12-month follow-ups. Confirmation rates between self-reports and biochemical tests ranged between 97 and 100%.

A chi-square test of the four experimental groups showed significant differences at the 12-month follow-up,  $\chi^2(3, N = 114) = 10.93, p < .05$ . At the 6-month follow-up, there was a significant difference between the 5-session group and the manual-only group,  $\chi^2(1, N = 64) = 4.54, p < .05$ , and between the manual-only group and the 5-session plus-manual group,  $\chi^2(1, N = 58) = 5.92, p < .05$ , with the manual-only group showing the lowest abstinence rate in both cases. At the 12-month follow-up, these significant

differences were found between the same groups,  $\chi^2(1, N = 64) = 4.54, p < .05$ , and  $\chi^2(1, N = 58) = 7.40, p < .05$ , respectively, and also, the 10-session group showed a significantly lower abstinence rate than the 5-session plus manual groups,  $\chi^2(1, N = 50) = 5.88, p < .05$ .

A chi-square test showed significant differences when comparing control and experimental groups at the 6-month follow-up,  $\chi^2(4, N = 162) = 24.07, p < .0001$ , and at the 12-month follow-up,  $\chi^2(4, N = 162) = 27.87, p < .0001$ .

Regarding sex, no statistically significant inter- or within-group differences were found.

### Reduction in number and nicotine content of cigarettes smoked

Regardless of type of treatment, the number of cigarettes smoked by nonabstinent participants fell considerably after treatment (see Table 3). Nonetheless, as can be seen in Table 4, high individual variability was observed regarding the number of cigarettes smoked by nonabstinent participants in each follow-up.

Table 2  
Abstinence Rates in Percentages

Group	Time					
	End of Treatment	1 Month	2 Months	3 Months	6 Months	12 Months
10-Session ( $n = 25$ )	68.0	44.0	32.0	32.0	24.0	16.0
5-Session ( $n = 31$ )	58.0	45.1	48.3	38.7	38.7	38.7
5-Session + Manual ( $n = 25$ )	60.0	52.0	60.0	52.0	44.0	48.0
Manual ( $n = 33$ )	36.3	36.3	36.3	36.3	15.1	15.1
Control ( $n = 48$ )	0.0				2.0	2.0

Table 3  
Number (Means and Standard Deviations) of Cigarettes Smoked by Treatment Groups at Various Times

Group		Time							
		Before Treatment	Baseline	End of Treatment	Follow-up (months)				
					1	2	3	6	12
10-Session ( $n = 25$ )	<i>M</i>	29.4	19.4	2.6	5.7	9.6	12.1	15.9	17.1
	<i>SD</i>	8.9	6.8	4.6	7.2	8.2	10.9	13.2	11.9
5-Session ( $n = 31$ )	<i>M</i>	25.6	17.7	4.3	6.6	7.4	8.5	11.7	12.7
	<i>SD</i>	7.6	8.7	5.7	8.4	8.3	8.1	11.1	13.1
5-Session+Manual ( $n = 25$ )	<i>M</i>	25.0	19.7	4.3	5.5	5.1	7.8	10.6	9.6
	<i>SD</i>	10.2	9.9	7.5	7.5	7.1	8.8	11.4	10.9
Manual Only ( $n = 33$ )	<i>M</i>	25.8	19.3	9.6	15.0	15.2	15.2	18.1	18.2
	<i>SD</i>	9.5	9.4	8.1	12.8	12.8	12.8	12.5	12.4

A repeated measures analysis of variance of Group x Time Elapsed showed that the number of cigarettes smoked was influenced by type of treatment,  $F(3, 110) = 3.62, p < .01$ , and time elapsed,  $F(7, 770) = 112.03, p < .001$ , and by the interaction of Group x Time Elapsed,  $F(21, 770) = 3.04, p < .001$ . An analysis of variance among the four treatment groups showed significant differences at the end of treatment,  $F(3, 110) = 5.41, p < .01$ , and at the 12-month follow-up,  $F(3, 110) = 2.95, p < .05$ . By the end of treatment, participants in the 10-session group were smoking the least number of cigarettes of all the groups, but post hoc Scheffé and Bonferroni tests showed significant differences only between the 10-session and the manual-only groups at this time. At the 12-month follow-up, the 5-session plus manual group showed the lowest cigarette consumption, although the differences were not significant.

There was a marked reduction in the nicotine content of the cigarettes smoked by the participants who had undergone the smoking cessation program: before treatment, 84% ( $n = 95$ ) of the participants smoked high-nicotine brands, 11% ( $n = 13$ ) smoked mild brands, and only 5% ( $n = 6$ ) smoked light-nicotine brands. At the 12-month follow-up, 29% ( $n = 33$ ) were still smoking high-content brands, 21% ( $n = 24$ ) were smoking mild brands, and 50% ( $n = 57$ ) were smoking light brands.

Discussion

As expected, by the end of the treatment, the groups receiving treatment under therapist-administered conditions had achieved a higher abstinence rate than the minimal contact group (68, 58, and 60%, respectively, vs. 36%). The treatment promoting the most enduring abstinence

(48% at the 12-month follow-up) was the 5-session plus manual, the other treatments achieving rates from 15 to 39% at that time. The 5-session plus manual group also reported the lowest number of cigarettes consumed at the 12-month follow-up, although there were no significant differences among the groups. These results are in keeping with other reports (Becoña & García, 1993; Becoña, García, & Gómez-Durán, 1992; Decker & Evans, 1991; Glasgow et al., 1981). The results achieved in the minimal contact condition were similar to those reported in a review of studies with self-help materials, where the average abstinence rate was 12.6% at the 12-month follow-up (García & Becoña, 1994).

The group receiving higher therapist contact achieved the worst results at the 12-month follow-up, which is not in accordance with findings that show that treatment length is associated with superior outcomes. This group also had higher post-treatment relapse rate, as predicted in Curry (1993) and reported by other authors (e.g., Curry, McBride, Grothaus, Lovie, & Wagner, 1995; Prochaska et al., 1993; Zhu et al., 1996). A possible explanation is that the participants might have come to rely on the sessions too much and were therefore not able to maintain their abstinence after the sessions ended.

Confirmation rates between self-reports and biochemical tests are also similar to other studies, where the average rates were 93%, ranging from 84% to 100%. This brings us to the unsolved issue of whether or not biochemical testing is necessary at all (Lichtenstein & Glasgow, 1992).

We wish to point out some variables that could have influenced the research results in this paper as well as the manner in which these variables were taken into account. For example, as part of our admission criteria, we stated that participants should be smoking at least 10 cigarettes per day,

Table 4  
Cigarette Consumption Before Treatment, at the End of Treatment (After), and in the 6 and 12 Month Follow-up Sessions

Number of Cigarettes Smoked	GROUPS															
	10-Sessions ( $n = 25$ )				5-Session ( $n = 31$ )				5-Session + Manual ( $n = 25$ )				Manual ( $n = 33$ )			
	Number of participants who smoked at various stages of the intervention:				Number of participants who smoked at various stages of the intervention:				Number of participants who smoked at various stages of the intervention:				Number of participants who smoked at various stages of the intervention:			
	Before	After	6-m	12-m	Before	After	6-m	12-m	Before	After	6-m	12-m	Before	After	6-m	12-m
0	0	17	6	4	0	18	12	12	0	15	11	12	0	12	5	5
1 - 5	0	4	0	1	0	1	0	2	0	3	0	0	0	1	2	2
6 - 10	0	1	2	1	1	7	3	2	0	4	4	3	1	6	3	3
11 - 15	1	2	5	7	2	5	4	4	3	1	1	1	3	7	2	2
16 - 20	6	1	6	6	6	0	7	3	10	1	5	5	9	5	8	8
21 - 39	10	0	5	4	16	0	4	5	5	1	3	4	12	2	9	9
> 31	8	0	1	2	6	0	1	3	7	0	1	0	8	0	4	4

yet the relationship between number of cigarettes consumed prior to treatment and consumption at post-treatment and follow-ups is well established (García & Becoña, 1997; Glasgow, Klesges, Klesges, & Somes, 1988; Ockene, Himowitz, & Shaten, 1991). The method of recruitment used could also have influenced our abstinence rates. All participants came to the program in response to advertisements in the mass media offering a multi-session smoking cessation program. The expectations of participants in the minimal contact group were therefore not fulfilled, because they received only a manual instead of a treatment program consisting of group sessions. However, some authors believe that to evaluate self-help methods properly, participants should not be given the opportunity to choose their method of treatment (Curry, 1993; Sallis et al., 1986). In spite of that, the majority of studies to date have evaluated self-help interventions with volunteer smokers, and recent data suggest that these volunteers may not be the best candidates for minimal interventions (Curry, 1993). To partially overcome the ethical problem of providing self-help treatment to people that had volunteered for a multi-session treatment, the smokers in the current study were given the opportunity to participate in a formal program if they had not achieved abstinence by the time of the last follow-up. It would be interesting in future research to compare a procedure in which participants could select the amount of therapeutic contact, with a procedure such as the one reported in this paper, where they received minimal contact without expecting it.

An important drawback of the study is that only one therapist administered all the treatments and this may have influenced the results, making possible Therapist x Treatment Interaction, although the therapist did not know the original aims of the study.

With regard to the usage of the manual in the sessions, the 5-session plus manual group achieved the best abstinence rate at the 12-month follow-up, as seen in the tendency observed by visual examination of the data. Moreover, the relapse rate was only 20%, the lowest amongst the groups. Furthermore, the abstinence rates improved between the 1<sup>st</sup> and 2<sup>nd</sup> months after the treatment, and between the 6<sup>th</sup> and 12<sup>th</sup> months. Although these results did not show statistically significant differences, the fact that the 5-session plus manual group performed better in every follow-up than the 5-session group (without manual), in terms of abstinence rate, cigarette consumption, and relapse rate, seems to support the view that self-help written materials can build a bridge between the treatment sessions and the individual's everyday life. They may also suggest that the manual can assist those who have not stopped smoking, or those who have relapsed after treatment, by being available for rereading (García & Becoña, 1993).

In our research, we have achieved the three levels of validation that a manual requires, as recommended by Glasgow and Rosen (1979): (a) The manual is based on procedures that have been shown to be among the most

effective treatments in smoking cessation (Lichtenstein & Glasgow, 1992; Schwartz, 1987). (b) The manual is based on a therapist-directed program that has been developed and used over the past sixteen years, and has been shown to produce very good results in the Department of Clinical Psychology and Psychobiology in Santiago de Compostela, Spain (Becoña et al., 1992). (c) The manual has been evaluated under the conditions of intended usage, achieving an abstinence rate of 15% at the 12-month follow-up, which is in keeping with results from other studies where the experimental conditions were similar (Decker & Evans, 1991; Glasgow et al., 1981).

The advantages of using self-help treatments - for example, they make it possible to treat individuals who live far from the therapist's office or who cannot come in for frequent visits - make developing their use a desirable goal. Moreover, despite the failure of self-administered conditions to lead to superior long-term treatment effects, such interventions could have an important public health impact if self-help materials are disseminated appropriately. The results of the present study suggest that manuals are also useful as supplementary maintenance procedures in therapist-directed programs. Moreover, one might begin with a self-administered program that presents straightforward strategies, to be followed, if necessary, by a multicomponent behavior program, administered by a therapist.

This research has established an infrastructure in Spain for self-help materials to quit smoking. The research will continue to extend the program delivery modes by making cessation materials available to important role-model communities, such as health staff in hospitals, and also by using strategies to accompany the self-help manual, such as personalized counselor calls, to improve success rates. We are also trying to increase our knowledge of how smokers successfully use these interventions. Future research should be aimed at evaluating the manual in other Spanish-speaking communities.

## References

- Altman, D.G., Flora, J.A., Fortmann, S.P., & Farquhar, J.W. (1987). The cost-effectiveness of three smoking cessation programs. *American Journal of Public Health, 77*, 162-165.
- Baille, A., Mattick, R.P., & Webster, P. (1990). *Review of published treatment outcome literature on smoking cessation*. National Campaign against Drug Abuse, National Drug and Alcohol Research Centre, Working Paper No. 1. Sydney: University of New South Wales.
- Becoña, E. (1993). *Programa para deixar de fumar*. Santiago de Compostela, Spain: Servicio de Publicaciones e Intercambio Científico.
- Becoña, E., & García, M.P. (1993). Nicotine fading and smokeholding methods to smoking cessation. *Psychological Reports, 73*, 779-786.

- Becoña, E., García, M.P., & Gómcz-Durán, B. (1992, April). *The stop smoking program at the University of Santiago de Compostela*. Paper presented at the 8th World Conference of Tobacco or Health. Buenos Aires, Argentina.
- Brandon, T.H., Zelman, D.C., & Baker, T.B. (1987). Effects of maintenance sessions on smoking relapse: Delaying the inevitable? *Journal of Consulting and Clinical Psychology, 55*, 780-782.
- Cohen, S., Lichtenstein, E., Prochaska, J.O., Rossi, J.S., Gritz, E.R., Carr, C.R., Orleans, C.T., Schoenbach, V.J., Biener, L., Abrams, D., DiClemente, C., Curry, S., Marlatt, G.A., Cummings, K.M., Emont, S.L., Giovino, G., & Ossip-Klein, D. (1989). Debunking myths about self-quitting: Evidence from 10 prospective studies of persons who attempt to quit smoking by themselves. *American Psychologist, 44*, 1355-1365.
- Conditte, M.M., & Lichtenstein, E. (1981). Self-efficacy and relapse in smoking cessation programs. *Journal of Consulting and Clinical Psychology, 49*, 648-658.
- Curry, S.J. (1993). Self-help interventions for smoking cessation. *Journal of Consulting and Clinical Psychology, 61*, 790-803.
- Curry, S.J., Marlatt, G.A., Gordon, J., & Baer, J.S. (1988). A comparison of alternative theoretical approaches to smoking cessation and relapse. *Health Psychology, 7*, 545-556.
- Curry, S.J., McBride, C., Grothaus, L.C., Lovie, D., & Wagner, E.H. (1995). A randomized trial of self-help materials, personalized feedback, and telephone counseling with nonvolunteer smokers. *Journal of Consulting and Clinical Psychology, 63*, 1005-1014.
- Curry, S.J., Wagner, E.H., & Grothaus, L.C. (1991). Evaluation of intrinsic and extrinsic motivation interventions with a self-help smoking cessation. *Journal of Consulting and Clinical Psychology, 59*, 318-324.
- Davis, A.L., Faust, R., & Ordentlich, M. (1984). Self-help smoking cessation and maintenance programs: A comparative study with 12-month follow-up by the American Lung Association. *American Journal of Public Health, 74*, 1212-1217.
- Decker, B.D., & Evans, R.G. (1991). Efficacy of a minimal contact version of a multimodal smoking cessation program. *Addictive Behaviors, 14*, 487-491.
- Fagerström, K.O. (1978). Measuring degree of physical dependence to tobacco smoking with reference to individualization of treatment. *Addictive Behaviors, 3*, 235-241.
- Fiore, M.C., Novotny, T.E., Pierce, J.P., Giovino, G.A., Hatzianandreu, E. J., Newcomb, P.A., Surawicz, T.S., & Davis, R.M. (1990). Methods used to quit smoking in the United States. *Journal of the American Medical Association, 263*, 2760-2765.
- Fox, R.M., & Brown, R.A. (1979). Nicotine fading and self-monitoring for cigarette abstinence or controlled smoking. *Journal of Applied Behavior Analysis, 12*, 115-125.
- García, M.P., & Becoña, E. (1993, September). *Can self-help materials increase the efficacy of behavioral multisession smoking cessation programs?* Paper presented at the 23rd European Congress of Behaviour and Cognitive Therapies, London.
- García, M.P., & Becoña, E. (1994). Manuales de autoayuda para dejar de fumar: una revisión. *Adicciones, 6*, 73-89.
- García, M.P., & Becoña, E. (1997). Variables demográficas y de consumo relacionadas con la abstinencia o recaída en fumadores. *Adicciones, 9*, 49-60.
- Gil Roales-Nieto, J., & Calero García, M.D. (1992). *Tabaquismo. Una guía para el autotratamiento*. Granada, Spain: Servicio de Publicaciones de la Universidad de Granada.
- Glasgow, R.E., Klesges, R.C., Klesges, L.M., & Somes, G.R. (1988). Variables associated with participation and outcome in a worksite smoking control program. *Journal of Consulting and Clinical Psychology, 56*, 617-620.
- Glasgow, R.E., & Rosen, G.M. (1979). Self-help behavior therapy manuals: Recent developments and clinical usage. *Clinical Behavior Therapy Review, 1*, 1-20.
- Glasgow, R.E., Schafer, L., & O'Neill, H.K. (1981). Self-help books and amount of therapist contact in smoking cessation programs. *Journal of Consulting and Clinical Psychology, 49*, 659-667.
- Glynn, T.J., Boyd, G.M., & Gruman, J.C. (1990). Essential elements of self-help minimal intervention strategies for smoking cessation. *Health Education Quarterly, 17*, 329-345.
- Hallet, R. (1986). Smoking intervention in the workplace: Review and recommendations. *Preventive Medicine, 18*, 213-231.
- Holland, B. S. Y Copenhaver, M. D. (1988). Improved Bonferroni-type multiple testing procedures. *Psychological Bulletin, 104*, 145-149.
- Lichtenstein, E., & Glasgow, R.E. (1992). Smoking cessation: What have we learned over the past decade? *Journal of Consulting and Clinical Psychology, 60*, 518-527.
- Ockene, J.K., Hymowitz, N., & Shaten, J. (1991). Comparison of smoking behavior change for SI and UC study groups. *Preventive Medicine, 20*, 564-573.
- Omenn, G.S., Thompson, B., Sexton, M., Hessol, N., Breitenstein, B., Curry, S., Michnich, M., & Peterson, A. (1988). A randomized comparison of worksite-sponsored smoking cessation programs. *American Journal of Preventive Medicine, 4*, 261-267.
- Orleans, C.T., Schoenbach V.J., Wagner, E.H., Quade, D., Salmon, M.A., Pearson, D.C., Fielder, J., Porter, C.Q., & Kaplan, B.H. (1991). Self-help quit smoking interventions: Effects of self-help materials, social support instructions, and telephone counseling. *Journal of Consulting and Clinical Psychology, 59*, 439-448.
- Ossip-Klein, D., Parker, S., Bigelow, G., Curry, S., & Kirkland, S. (1986). Classification and assessment of smoking behavior. *Health Psychology, 5*, 3-11.
- Pomerleau, O.E., & Pomerleau, C.S. (1977). *Breaking the smoking habit: A behavioral program for giving up cigarettes*. Champaign, IL: Research Press.
- Prochaska, J.O., DiClemente, C.C., Velicer, W.F., & Rossi, J.S. (1993). Standardized, individualized, interactive, and personalized self-help programs for smoking cessation. *Health Psychology, 12*, 399-405.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

- Sallis, J.F., Hill, R.D., Killen, J.D., Telch, M.J., Flora, J.A., Girard, J., & Taylor, C.B. (1986). Efficacy of self-help behavior modification materials in smoking cessation. *American Journal of Preventive Medicine*, 2, 342-344.
- Schachter, S. (1982). Recidivism and self-care of smoking and obesity. *American Psychologist*, 37, 436-444.
- Schwartz, J.L. (1987). *Review and evaluation of smoking cessation methods. The United States and Canada, 1978-1985*. Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health.
- U.S. Department of Health and Human Services, Public Health Service. (1988). *The health consequences of smoking: Nicotine addiction. A report of the Surgeon General* (Publication No. CDC 89-8411). Rockville, MD.
- Zhu, S.H., Stretch, V., Balabanis, M., Rosbrook, B., Sadler, G., & Pierce, J.P. (1996). Telephone counseling for smoking cessation: Effects of single-session and multiple session interventions. *Journal of Consulting and Clinical Psychology*, 64, 202-211.

Received December 23, 1998

Revision received December 14, 1999

Accepted January 13, 2000