

# Smoking cessation treatment in primary and specialized care, a real opportunity and a public health necessity

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**Aim.** To determine whether primary care provides a suitable framework for integrated treatment aimed at smoking cessation with systematic minimal intervention or pharmacological treatment with nicotine replacement therapy (NRT). To compare the results with those obtained in a specialized pneumology unit.

**Design.** Prospective, quasi-experimental study.

**Setting.** Primary and specialized care services.

**Participants.** 357 smokers who were followed at a health center (166) or a specialized clinic (191) during a 6-month period.

**Interventions.** Two types of intervention were used depending on the patients' degree of nicotine dependence: systematic minimal intervention for those with low dependence or who were still in the contemplation or precontemplation phase, and NRT for those with high dependence, in the preparation phase.

**Main outcome measures.** Twelve months after the start of the study, abstinence among participants who received systematic minimal intervention was 36.5% in primary care patients and 41.8% in specialized care patients ( $P>.05$ ). Among participants who received NRT abstinence was 37.1% in the former group and 35.5% in the latter ( $P>.05$ ). The percentage of patients lost to follow-up was 8.6% in specialized care and 6.3% in primary care.

**Conclusions.** The results lead us to recommend smoking cessation treatment integrated in the primary care setting, either with systematic minimal intervention or NRT.

**Key words:** Tobacco. Primary care. Specialized care. Smoking cessation.

## EL ABORDAJE DEL TABAQUISMO EN ATENCIÓN PRIMARIA Y ESPECIALIZADA, UNA OPORTUNIDAD REAL Y UNA NECESIDAD DE SALUD PÚBLICA

**Objetivo.** Valorar si atención primaria ofrece un marco adecuado para el abordaje del tabaquismo de forma global, tanto con la intervención mínima sistematizada en tabaquismo como con tratamiento farmacológico mediante terapia sustitutiva con nicotina (TSN), comparando los resultados obtenidos con los de una unidad especializada de neumología.

**Diseño.** Estudio prospectivo cuasi experimental.

**Emplazamiento.** Atención primaria y especializada.

**Participantes.** Un total de 357 fumadores que acudieron a una consulta de atención primaria ( $n = 166$ ) o especializada ( $n = 191$ ) durante un período de 6 meses.

**Intervenciones.** Se realizaron dos tipos de intervención en función de la dependencia nicotínica de los pacientes: intervención mínima sistematizada en los que presentaban baja dependencia o que aún se encontraban en fases de precontemplación y contemplación, y TSN en los fumadores con alta dependencia y en fase de preparación.

**Mediciones y resultados principales.** La abstinencia observada a los 12 meses del inicio del estudio fue, en el grupo de la intervención mínima sistematizada, del 36,5% en atención primaria y del 41,8% en especializada ( $p > 0,05$ ), y en el grupo de la TSN, del 37,1 y el 35,5%, respectivamente ( $p > 0,05$ ). El porcentaje de pérdidas de seguimiento fue del 8,6% en especializada y del 6,3% en primaria.

**Conclusiones.** Los resultados observados en el presente estudio nos permiten aconsejar el tratamiento del tabaquismo de forma global en el marco de la atención primaria, bien sea mediante la denominada intervención mínima sistematizada o la TSN.

**Palabras clave:** Tabaco. Atención primaria. Atención especializada. Cesación tabáquica.

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## Introduction

Many patients who consult their doctor, regardless of the level of care involved, are smokers. According to the 1997 National Health Survey in Spain,<sup>1</sup> 35.7% of all Spaniards older than 16 years smoke. In addition, smoking causes 56 000 deaths yearly in Spain.<sup>2</sup> This means that for many patients, the reason for seeking medical help is likely to be related with smoking. The use of primary care by the general population in Spain is increasing, possibly because of its accessibility. (It is estimated that 75% of all Spaniards visit their doctor at least once a year.) The mean number of visits per year per person is 5.5, a number that provides practitioners and the health care system itself with multiple opportunities to help those who wish to quit smoking.<sup>3</sup> Many other persons seek help from the second level of care, ie, from specialists. As a result, a very large percentage of persons in Spain seek health care and may thus be reachable through interventions to quit smoking. The favorable cost-benefit ratio of smoking cessation treatments, especially in comparison to other preventive measures often used in primary care, is well known. Programs to quit smoking are possibly the procedures that most efficiently improve the health of the population.<sup>4</sup> However, systematic intervention for smoking is not yet a reality in the Spanish health system, and we may still be far from such intervention. Despite the frustrating slowness with which smoking prevention is becoming part of clinical practice, the situation is changing. It is revealing in this connection to reread the medical training texts used in the 1970s, which contained statements such as «Quitting is very difficult if the inveterate smoker does not cooperate or lacks will power...The decision to quit smoking once and for all is of prime importance in getting through the first three days without smoking, and the following may be of help: 3 tablets per day of belladene or bellergal, taking a walk before bedtime, candies, exercising, and showering in the morning.»<sup>5</sup> Fortunately the current concept of smoking has changed, and the problem is now considered one of the main public health issues and the most frequent cause of preventable deaths in developed countries.<sup>6</sup> However, as noted above, we are still far from the day when anti-smoking therapy forms part of the daily activities of primary care physicians and nurses. At most, patients are asked to provide a history of their smoking habit, and this history is usually incomplete, lacking information on which phase of the quitting process the patient is in, or on the degree of nicotine dependence. Moreover, the health advice given is sometimes not accompanied by printed supporting material or plans for follow-up, which are part of systematic minimal intervention for smoking cessation. Pharmacological treatment has been relegated

in most cases to specialized anti-smoking units, which are scarce and hence cover only a small proportion of the population. These units are therefore unlikely to have a substantial influence on the public health problem that smoking creates.

Minimal intervention is undoubtedly a measure that ought to be implemented by primary care physicians, but what is to be done about pharmacological treatment? Should it be restricted to specialized units, or could it also succeed if offered at primary care centers? The aim of this study was to compare the efficacy of smoking cessation treatments based on systematic minimal intervention and nicotine replacement therapy (NRT) offered in the setting of primary care (PC) and specialized care (SC).

## Material and methods

This quasi-experimental, longitudinal, prospective study<sup>7</sup> formed part of a larger research project.<sup>8</sup> Some of the findings for the predictive power of abstinence 2 months after quitting have been reported previously.<sup>9</sup>

### Subjects

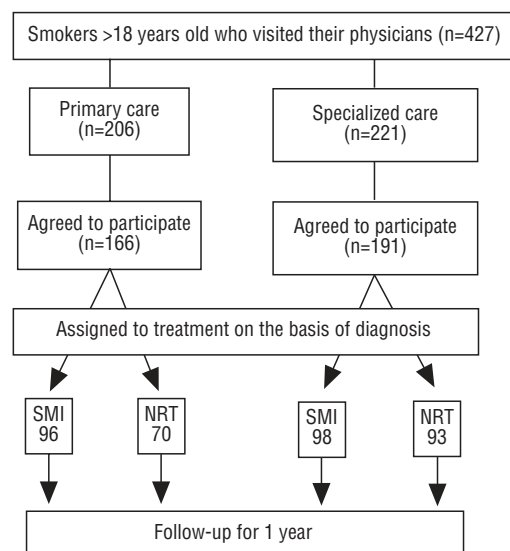
The population we studied consisted of all smokers older than 18 years who came for any reason to the family medicine service at the San Juan Health Center in Salamanca (northwestern Spain) or to the pneumology out-patient clinic at the University of Salamanca Hospital. Exclusion criteria for patients on NRT were the same as those for any pharmacological treatment: recent history of myocardial infarction, severe cardiac arrhythmia, unstable angina, pregnancy, breastfeeding, active gastroduodenal ulcer, and severe mental illness. In both treatment groups addiction to other drugs besides tobacco was considered an exclusion criterion.

### Interventions

For each smoker we recorded name, age, sex, and phone number. Disease antecedents were noted, and information was obtained about disease antecedents and smoking habits: number of cigarettes smoked/day, nicotine consumption/day, packs/year ratio, phase of the quitting process, degree of nicotine dependence (as measured with the Fagerström test), and carbon monoxide concentration in exhaled breath (measured with a Bedfont Micro Smokerlyzer).

The patients were classified on the basis of the phase of the quitting process, and all were offered stage-appropriate oral and printed *medical advice*. Those in the precontemplation phase were given an information sheet about smoking, and those in the contemplation, preparation and action phase were given in addition a 10-item list of steps for quitting smoking, and a practical guide to quitting. All advice was given at each visit by the same person, and a talk lasting approximately 3 min was given to explain the damage caused by smoking, and the short- and long-term advantages of quitting. The same information was provided in both settings, and was developed in accordance with the recommendations of the Section on Smoking (Área de Tabaquismo) of the Spanish Pneumology and Thoracic Surgery So-

Material and methods



SMI indicates systematic minimal intervention; NRT, nicotine replacement therapy.

## General scheme of the study

**Quasi-experimental prospective follow-up study of 1 year's duration of smokers who were given smoking cessation treatment**

ciety (Sociedad Española de Neumología y Cirugía Torácica, SEPAR).<sup>10</sup> All physicians in both settings were trained to follow exactly the same procedures.

Patients with high (score of 7 or more on the Fagerström test) and moderate nicotine dependence (score of 5 or 6) who also smoked more than 10 cigarettes/day or reported previous attempts to quit which failed because of nicotine withdrawal symptoms, medical advice was accompanied by pharmacological support with nicotine patches as recommended by the SEPAR.<sup>10</sup> The patients were divided into two groups:

**Group 1.** Patients who smoked  $\leq 20$  cigarettes/day, with low nicotine dependence (score  $< 5$  on the Fagerström test), those with moderate nicotine dependence (Fagerström score of 5-6) and low cigarette consumption, and those with moderate or high dependence who declined NST with nicotine patches (19 patients). All participants were given printed material and medical advice, psychological support and follow-up during the quitting process. This group consisted of 194 persons: 75 in the precontemplation phase, 65 in the contemplation phase, and 54 in the preparation phase.

**Group 2.** The members of this group were in the preparation phase, and were candidates for NRT either because they smoked more than 20 cigarettes/day or because their nicotine dependence was high. This group consisted of 163 persons: 16 with low dependence, 49 with moderate dependence and 98 with high dependence.

## Follow-up

Patients in both the systematic minimal intervention and NST group were seen on day 15, and 1, 2, 6 and 12 months after starting the program, and abstinence (as the main outcome variable) was evaluated after 2, 6 and 12 months. When the participant missed an appointment he or she was contacted by telephone to determine the reason and to reschedule the appointment.

At each follow-up appointment progress in quitting was recorded as self-reported abstinence, which was verified with exhaled carbon monoxide measurements. A value  $< 10$  ppm was considered the cutoff value for distinguishing between smokers and nonsmokers, and between nonsmokers and light smokers.<sup>11</sup> For patients who were unable to quit we recorded the number of cigarettes/day, nicotine dependence, exhaled carbon monoxide concentration, phase of the quitting process, and whether the phase had changed since the start of the program. Patients in both groups were offered additional information aimed at achieving abstinence.

## Outcome measures

The main outcome variables were:

- Success rate, measured on the basis of intention to treat, ie, patients who quit smoking 2, 6 or 12 after the intervention started were considered successes. The main outcome variable was abstinence after 6-12 months. Patients who had not given up smoking after 12 months, and those who skipped the appointments, were considered failures.
- Number of patients who significantly reduced the number of cigarettes consumed during the year of follow-up, or who progressed in the quitting process.

## Statistical analyses

Chi-squared tests were used for comparison of the proportions; Fisher's exact test was used when appropriate. Student-Fisher's *t* test was used for comparison of the means.

To investigate the changes in the number of cigarettes consumed per day during the follow-up period and the variables related with these changes, we used multifactorial analysis of variance of repeated measures. In the initial model the dependent variable was number of cigarettes smoked per day, the intrasubject factor was the number of follow-up visits, and the intersubject factor was the level of care (primary or specialized) that provided treatment. After possible differences were identified, multiple comparisons were done with the Bonferroni test.

## Results

In all, 427 patients were seen during the study period, 221 in SC and 206 in PC. Of these patients, 357 (83.6%) agreed to participate in the study (191 in SC and 166 in PC); 194 received systematic minimal intervention, and 163 received NRT.

Thirty-two patients (9%) did not attend scheduled appointments (19 [8.6%] in SC and 13 [6.3%] in PC), and were considered cases in which therapy failed. Of these patients, 17 received systematic minimal intervention (12 [10.5%] in SC, and 5 [4.9%] in PC), and 15 received NRT (7 [6.5%] in SC and 8 [7.6%] in PC). Seventeen patients

were men and 15 were women; 10 were younger than 30 years. Of the 32 patients who missed appointments, 23 had moderate or high nicotine dependence.

Of the total sample, 200 patients (56%) were men and 157 (44%) were women. The distribution according to level of care differed significantly: men predominated in SC (66% vs 44.7%;  $P<.0001$ ).

Mean age for the entire sample was 39.9 years (95% confidence interval 38.7–41.2 years); mean age was 45.1±12.9 years in SC and 34.2±12 years in PC. In men, mean age was 44.5±13.8 years, and in women the figure was 34.3±10.9 years ( $P<.0001$ ).

Among patients seen in the pneumology service a significantly higher percentage (63.4%) had some underlying disease in comparison to patients seen at the PC center (34.9%;  $P<.0001$ ). The most common diagnoses were asthma (24.6%), chronic bronchitis (23.5%) and emphysema (9.5%); together these three accounted for more than 57% of all the diseases detected. These diseases were present in 76% of the patients followed at the pneumology service, but in only 20.7% of those followed at the PC center, where they were seen in 48.2% and 7.2% of the patients who kept their appointments. Of the patients with some underlying disease, 67% were men and 31.8% were women ( $P<.0001$ ).

The mean number of cigarettes smoked per day at the beginning of the intervention was 20.8±10.2 in SC and 25.1±12.9 in PC ( $P<.05$ ). However, the packs/year ratio was significantly higher in SC patients (29.2±20.9) than in PC patients (22.5±20.9;  $P<.01$ ).

The degree of nicotine dependence at the beginning of the study was greater in the PC (mean Fagerström score 6.3) than in the SC group (mean score 5.8;  $P<.01$ ).

Mean concentration of exhaled carbon monoxide was 25.5 ppm in PC and 23.6 ppm in SC ( $P>.05$ ).

The percentage of participants who had quit smoking after 12 months of systematic minimal intervention was 41.8% in SC and 36.5% in PC. This difference was not statistically significant, nor were the differences seen at any of the intermediate follow-up visits ( $P>.05$ ) (Table 1). After one year of NRT the percentage of smokers who had quit was 35.5% in SC and 37.1% in PC ( $P>.05$ ) (Table 2). Although abstinence after treatment with systematic minimal intervention showed no large changes during the follow-up period ( $P>.05$ ), abstinence in patients who received NRT decreased steadily with time, although the differences from one follow-up visit to the next were not statistically significant.

The percentage of patients in the systematic minimal intervention group who were able to quit at the beginning of the intervention and who remained abstinent throughout the 12-month follow-up period (sustained abstinence) was 29.6% in SC and 27.1% in PC. In patients who received NRT the figures were 33.3% in SC and 31.4% in PC ( $P>.05$ ).

Throughout the follow-up period, mean daily cigarette consumption (Table 3) was always lower in SC patients (10.6; 95% CI, 8.3–10.2) than in PC patients (14.3; 95% CI, 12.7–15.9;  $P=.008$ ).

Multivariate analysis was used to determine the effectiveness of the intervention in reducing the number of cigarettes smoked per day. After 2 months the number had decreased significantly in comparison to the number at the start of the study. This reduction was maintained with little change in subsequent follow-ups, and there were no significant differences in the number of cigarettes smoked per day after 2, 6 and 12 months (Table 4).

Multivariate analysis showed that there was no interaction between duration of follow-up and level of care: the changes during follow-up in the numbers of cigarettes smoked per day were similar in SC and PC patients.

The decrease in the number of cigarettes was reflected in mean values of exhaled carbon monoxide concentration at

**TABLE 1** Smoking cessation in the group that received systematic minimal intervention

	2 months*	6 months*	12 months*
Pneumology clinic	98 (100%)	98 (100%)	98 (100%)
Quit smoking	34 (34.7%)	38 (38.8%)	41 (41.8%)
95% confidence interval	25.4%-45.0%	29.1%-49.2%	31.9%-52.2%
Primary care center	96 (100%)	96 (100%)	96 (100%)
Quit smoking	32 (33.2%)	29 (30.2%)	35 (36.5%)
95% confidence interval	24.0%-43.7%	21.3%-40.4%	26.9%-46.9%
Total sample	194 (100%)	194 (100%)	194 (100%)
Quit smoking	66 (34.0%)	67 (34.5%)	76 (39.2%)
95% confidence interval	27.4%-41.2%	27.9%-41.7%	32.3%-46.4%

\*Differences not statistically significant ( $P>.05$ ).

**TABLE 2** Smoking cessation and relation with level of care in the group that received nicotine replacement therapy (nicotine patches)

	2 months <sup>a</sup>	6 months <sup>a</sup>	12 months <sup>a</sup>
Pneumology clinic <sup>a</sup>	93 (100%)	93 (100%)	93 (100%)
Quit smoking	47 (50.5%)	36 (38.7%)	33 (35.5%)
95% confidence interval	40.0%-61.1%	28.8%-49.4%	25.8%-46.1%
Primary care center <sup>a</sup>	70 (100%)	70 (100%)	70 (100%)
Quit smoking	38 (54.2%)	28 (40.0%)	26 (37.1%)
95% confidence interval	41.9%-66.3%	28.5%-52.4%	25.9%-49.5%
Total sample <sup>b</sup>	163 (100%)	163 (100%)	163 (100%)
Quit smoking	85 (52.1%)	64 (39.3%)	59 (36.2%)
95% confidence interval	44.2%-60.0%	31.7%-47.2%	28.8%-44.1%

<sup>a</sup>Differences not statistically significant ( $P>.05$ ).

<sup>b</sup>Differences statistically significant ( $P<.05$ ).



the beginning of the study and during follow-up. Statistically significant differences between the results at each follow-up visit were found for the sample as a whole when participants who were able to quit and those who were unable to quit were considered together. Mean carbon monoxide concentration at the start of the study was  $24.3 \pm 10.5$  ppm, as compared to  $12.1 \pm 10.2$  ppm at the end of the study. In participants who were unable to quit smoking by the end of the 12-month study period, the final concentration was  $19.9 \pm 8.9$  ppm. When we compared the results for the two levels of care we found similar differences between participants who quit and those who did not. In the SC group the initial and final concentrations were  $23.9 \pm 11.2$  ppm and  $11.7 \pm 10.9$  ppm respectively, and the final concentration for those who were unable to quit was  $20.6 \pm 10.1$  ppm. In the PC group the figures were  $24.7 \pm 9.7$  ppm and  $12.3 \pm 9.5$  ppm, respectively, and the final concen-

tration in those who were unable to quit was  $19.3 \pm 7.8$  ppm.

## Discussion

The differences in the results between the primary care and specialized center resulted from the particular characteristics of the patients managed at each level of care. The population followed by the pneumology clinic was older on the average, and the main reason for consulting was chronic respiratory disease related with smoking. These problems take longer to appear than do the acute processes normally seen in primary care.

The predominance of men in the specialized clinic was related not with an actual difference in the prevalence of smoking between men and women, but with the fact that

**TABLE 3** Differences between patients treated at different levels of care in mean number of cigarettes smoked per day

Time	Level	Cigarettes/day	SEM	P (mean)	95% CI	
					Lower	Upper
Results for all patients						
Start	SC	21.2	1.4		18.5	24.0
	PC	24.9	1.0		22.9	27.0
	Diference	−3.7	1.7	.033	−7.1	−0.3
2 months	SC	7.2	1.2		4.8	9.7
	PC	9.2	0.9		7.5	11.0
	Diference	−2.0	1.5	.189	−5.0	1.0
6 months	SC	6.9	1.3		4.2	9.5
	PC	11.4	1.0		9.5	13.3
	Diference	−4.5	1.6	.007	−7.7	−1.3
12 months	SC	6.9	1.4		4.2	9.6
	PC	11.6	1.0		9.7	13.6
	Diference	−4.7	1.7	.006	−8.1	−1.4
Results for patients who quit						
Start	SC	24.4	2.4		19.6	29.2
	PC	26.0	1.6		22.7	29.2
	Diference	−1.6	2.9	0.587	−7.4	4.2
2 months	SC	13.9	1.9		10.1	17.7
	PC	17.5	1.3		15.0	20.1
	Diference	−3.6	2.3	0.116	−8.2	0.9
6 months	SC	15.0	2.0		11.0	19.0
	PC	19.4	1.4		16.7	22.2
	Diference	−4.4	2.4	.072	−9.3	0.4
12 months	SC	15.2	2.0		11.2	19.2
	PC	19.7	1.4		17.0	22.4
	Diference	−4.5	2.4	.066	−9.4	0.3

SEM indicates standard error of the mean; CI, confidence interval; SC, specialized care; PC, primary care

**TABLA  
4****Intrasubject effects. Paired comparisons of the number of cigarettes smoked per day  
(based on estimated marginal means)**

Time (I)	Time (J)	Difference (I-J)	SE	P	95% CI for the difference	
					Lower	Upper
Results for all patients						
Initial	2 months	14.9	0.9	.000	13.0	16.7
	6 months	14.0	0.8	.000	12.3	15.6
	12 months	13.8	0.8	.000	12.2	15.5
2 months	Initial	-14.9	0.9	.000	-16.7	-13.0
	6 months	-0.9	0.5	.089	-1.9	0.1
	12 months	-1.1	0.7	.130	-2.4	0.3
6 months	Initial	-14.0	0.8	.000	-15.6	-12.3
	2 months	0.9	0.5	.089	-0.1	1.9
	12 months	-0.2	0.4	.688	-0.9	0.6
12 months	Initial	-13.8	0.8	.000	-15.5	-12.2
	2 months	1.1	0.7	.130	-0.3	2.4
	6 months	0.2	0.4	.688	-0.6	0.9
Results for patients who were unable to quit						
Initial	2 months	9.4	1.2	.000	7.1	11.8
	6 months	7.9	1.1	.000	5.9	10.0
	1	2 months	7.7	1.0	.000	5.7
2 months	Initial	-9.4	1.2	.000	-11.8	-7.1
	6 months	-1.5	0.7	.043	-2.9	-5.0E-02
	1	2 months	-1.7	1.0	.089	-3.7
6 months	Initial	-7.9	1.1	.000	-10.0	-5.9
	2 months	1.5	0.7	.043	5.0E-02	2.9
	12 months	-0.2	0.6	.740	-1.5	1.0
12 months	Initial	-7.7	1.0	.000	-9.8	-5.7
	2 months	1.7	1.0	.089	-0.3	3.7
	6 months	0.2	0.6	.740	-1.0	1.5

SE indicates standard error; CI, confidence interval.

women have begun smoking relatively recently, and hence the manifestations of the resulting damage have not yet appeared. However, this situation is changing in accordance with the classical epidemiological curve of smoking.<sup>12</sup>

Patients followed at the specialized center had more severe respiratory disease and may therefore have smoked fewer cigarettes per day. However, the packs/year ratio was higher in these patients. A logical finding was that the degree of nicotine dependence and carbon monoxide concentration, which are linked to current smoking habits, were lower in patients followed at the pneumology clinic. A number of studies have shown minimal intervention to be effective<sup>13-22</sup> in both PC and SC settings, and have found NRT to be effective in SC,<sup>23-28</sup> but there are no studies that used the same method to compare the efficacy

of these two interventions for smoking cessation at both levels of care.

We found no significant differences in the results between groups at any time during follow-up, in terms of change of phase, abstinence or smoking reduction. This leads us to note that despite the limitations related to the different populations treated at the two levels of care we compared, and foregoing any attempt to undertake a rigorous comparison of the two centers, smoking cessation can and should be undertaken in primary care, a setting with the added advantages of greater accessibility and coverage, and thus greater benefits in terms of public health as shown in the classic study by Russell et al.<sup>13</sup>

The percentage abstinence rates in the present study contrast with earlier results reported by other authors.<sup>13-29</sup> The better results obtained in the present study are pro-

Discussion  
Key points



## What is known about the subject

- Smoking cessation interventions are among the preventive activities with the highest cost/benefit ratios.
- Both systematic minimal intervention and nicotine replacement therapy have been shown effective in smoking cessation treatment

## What this study contributes

- Specific methods for smoking cessation can be expected to yield similar results regardless of whether they are used in primary or specialized care.
- The choice of intervention will depend on the correct diagnosis of the smoking habit.
- Primary care can be the setting of reference for smoking cessation treatment.

bably due to the fact that our patients sought medical help for health problems, and smoking cessation treatment was offered to them within the wider context of treatment for their underlying illness. This made more prolonged, systematic interventions possible (with periodic follow-up examinations scheduled regularly and also taking place during visits to the center for any other health problem). The results, as shown in other studies,<sup>30-32</sup> were thus better than if the interventions had been attempted in isolation. Another possible factor is the greater need in the general population to quit smoking, as also reported in a recent study by Torrel et al.<sup>33</sup>, in which a high percentage of participants ceased smoking. This factor has been noted and discussed in a previous article in *ATENCIÓN PRIMARIA*.<sup>34</sup>

It should be recalled that our participants were assigned to receive minimal intervention or NRT on the basis of their degree of nicotine dependence and cigarette consumption. This might explain, in part, the high percentages of abstinence in the group that received systematic minimal intervention, as it might be assumed that it would not be difficult for these patients to quit.

An important task for health care professionals is to develop activities aimed at fomenting healthy attitudes in patients, and smoking cessation treatment is one way to favor such attitudes. The appearance of new drugs<sup>35</sup> along with personal factors that might give some indication of the patient's course in the quitting process,<sup>36,37</sup> as well as more reliable predictive factors—such as the results of cessation intervention after 2 months,<sup>9</sup> can help enhance the efficacy and efficiency of measures to help the patient quit. On the basis of the results of the present study, we believe that systematic minimal intervention and NRT should be used by health professionals and included in all medical contacts regardless of the level of care.

In conclusion, NRT is effective, with success rates ranging, according to a meta-analysis by Silagy et al.,<sup>38</sup> from 15% to 24% depending on the mode of treatment. This therapy should be used at all levels of health care and not be limited to specialized centers. Because it is recommended for patients with higher levels of dependence, it has been found effective in primary care, as the patients seen at this level of care smoke more cigarettes and have higher levels of dependence than patients seen by specialists.

It may be useful to identify the limitations of these interventions in primary and specialized care, especially now that the appearance on the Spanish market of bupropion means that there are more options for pharmacological treatment, and now that the future holds expectations for gene therapy.<sup>39,40</sup> The limitations of available treatments will probably be determined by specific situations that require more specialized interventions such as those offered by anti-smoking units. One aim should thus be to define the criteria for referral to

such units,<sup>41</sup> having accepted that systematic minimal intervention and pharmacological treatment can and should be used at all levels of care within the health system.

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COMMENTARY

# Health education for chronic diseases in primary care

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Data have shown that cigarette smoking is the most widespread preventable public health problem in Spain in terms of attributable morbidity and mortality. Unfortunately, society—and perhaps many health professionals—are not yet fully aware of this fact. In general, smokers do not consider themselves to be ill (60% report enjoying good perceived health), although technically many should be considered objectively to be nicotine-dependent. These reasons justify a brief, discreet initial intervention in most smokers.

The concept of minimal intervention is unclear because this type of intervention can vary in intensity. In other words, certain types of minimal intervention may need considerably more time than what is usually available in primary care to achieve the goals of the most widely used smoking cessation guidelines.

The WHO and the American Consensus favor the term «brief (or very brief) intervention» to designate brief counseling, and this term should be preferred to «minimal intervention». The excellent study by Torrecilla García and colleagues in this issue of *ATENCIÓN PRIMARIA* emphasizes the idea that both brief (minimal) intervention and pharmacological treatment offered in primary care can be as effective as specialized intervention if correct methods are used.

It is now known that ex-smokers constitute 15% of the population in Spain. This figure indicates that health professionals are encountering smokers who are increasingly unwilling to quit, ie, those who have never tried or those who have failed repeatedly. In the foreseeable future the remaining active smokers are likely to be those with greater levels of dependence, who require increasingly intensive treatment and pharmacological support with bupropion-based nicotine replacement therapy.<sup>1</sup> However, the high prevalence of smoking in Spain suggests that there is an enormous amount of work yet to be done at all available levels of clinical intervention.

In fact, most smokers can be considered «dissonant» (ie, they do not feel comfortable with their condition as smokers). It is currently accepted that 70% of all smokers would like to quit.<sup>2</sup> This does not mean that most smokers are willing and ready to stop, but that their intention in the middle term is to try to quit in the long run. In Spain it is estimated that at any given time, only 7% of all smokers in the general population would like to quit within the next

- Although almost all those who try, fail, more than half of all smokers who quit do so on their own, without help from health professionals and without the benefit of available treatments of proven efficacy.
- In the foreseeable future, active smokers who maintain their habit are likely to be those with greater degrees of dependence, who require increasingly intensive treatment and pharmacological support.
- Although certain levels of intervention may be more relevant for certain population groups, all professional collectives should be familiar with and implement, when necessary, the full spectrum of effective treatments.
- The most effective strategy in the coming years will include the increased use of integrated brief intervention, the inclusion of specific anti-smoking care within the primary care system, and the use of referral to specialized units as a last resort.

4 weeks, although the figure is higher than 12% for persons older than 45 years, and may be even higher in the population who seek medical attention.<sup>3</sup> Each year 40% of all smokers try to quit, although most of them fail.<sup>2</sup> Nevertheless, more than half of all smokers who quit do so on their own, without help from health professionals or available treatments now recognized to be highly effective.<sup>2,4</sup> The minimum annual success rate for those who quit on their own is 1%, but if we consider attempts to quit by those who try over a period of several years, the figure rises to 7%. However, with specific, professional help the mean success rate increases to 15%-30% when modern psychological and pharmacological treatments are used.<sup>2</sup> Data for the Spanish population indicate that at any given time there are at least 800 000 smokers willing to try to quit. Such a large volume of subjects can only be managed with the participation of the primary care service.<sup>4</sup> The WHO has established that treatment for nicotine dependence should include pharmacological and behavioral intervention (alone or in combination) that can range from brief counseling to specialized intervention with drugs ai-

med at reducing nicotine dependence in smokers and in the general population. In general, the full spectrum of interventions is effective.

There is reasonable evidence that with time, persons who quit smoking consume fewer health resources, and this should encourage managers to concentrate resources on actions aimed at smoking cessation.<sup>5</sup> Smoking is a clear paradigm of a cross-sectional health problem, and care should be organized with a view to patients' interests and needs. Support services should be staffed by professionals trained in smoking cessation who work full-time, or during a specified number of hours per week, exclusively with smokers.<sup>2,6</sup> Although certain levels of intervention may be more relevant for certain sectors, all professional collectives should be familiar with and implement, when necessary, the full spectrum of effective treatments. The approach to smoking cessation cannot be compartmentalized, nor should different levels of intervention be considered to represent a vertical, closed or hierarchic health care structure.

Some questions that need to be raised with regard to the future of care for smoking cessation are: What can we do to increase the use of brief interventions by primary care practitioners? Is it possible at this time to add intensive or advanced intervention to the family doctor's usual duties? If minimal intervention is not being used, can we expect more extensive interventions to be used?

The experience of a few professionals in Spain cannot be extrapolated to the entire primary care system. There are problems arising from the lack of time (with 5 min per patient, prevention and health promotion cannot effectively be integrated into the family doctor's every-day consulting

activities); there are problems with skills (medical schools do not train physicians in smoking cessation interventions); but above all, there are problems of attitude. Too many doctors and nurses smoke, and the problem does not appear to receive the priority it deserves. Difficulties are magnified, opportunities minimized. This situation needs to be reversed with structural reform, increased training and motivation, the promotion of smoke-free health centers, and a social environment more favorable to the regulation of smoking. The road ahead is long, complicated, and difficult, but in the long run the public health benefits will make traveling this road worth the effort.

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