

Changes in Tobacco Use in the General Population of Barcelona, 1983-2000

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Objectives. To analyze the prevalence trends for smoking and its determinants in the general population of Barcelona from 1983 to 2000.

Design. Time series study.

Setting. Health survey based on home interviews of a representative sample of the general population of Barcelona.

Participants. In the years 1983, 1992, and 2000 we interviewed 3134, 5004, and 10 000 persons, respectively.

Main outcome measures and results. Between 1983 and 2000 daily tobacco use showed a steady tendency to decrease among men, with a prevalence that decreased from 54.6% to 38.3%, while in women, smoking increased between 1983 and 1992 (from 20.9% to 25.4%) but remained stable in 2000 (24.5%). The proportion of smokers who said they wanted to quit increased in both sexes from 1992 (54.2%) to 2000 (65.7%). During this period the proportion of smokers who said their doctor had advised them to quit increased from 36.1% to 48.1%. The trends for both sexes showed that consumption of tobacco products was greater among less privileged socioeconomic groups.

Conclusions. The results of this study confirm the decrease in the prevalence of daily consumption of tobacco products and the increase in smokers who would like to quit, in parallel with the increase in advice from physicians to quit. However, the trends among younger groups remained stable, a finding that makes it necessary to intensify efforts aimed at this population group.

Key words: Smoking. Public health. Health survey.

CAMBIOS EN EL CONSUMO DE TABACO EN LA POBLACIÓN GENERAL EN BARCELONA, 1983-2000

Objetivos. Analizar las tendencias de la prevalencia del hábito tabáquico y sus determinantes en la población general de Barcelona entre 1983 y 2000.

Diseño. Estudio de series temporales.

Emplazamiento. Encuesta de salud mediante entrevista realizada en el domicilio a muestras representativas de la población general de Barcelona.

Participantes. En los años 1983, 1992 y 2000 se entrevistó a 3.134, 5.004 y 10.000 personas, respectivamente.

Mediciones y resultados principales. Entre 1983 y 2000 se mantiene la tendencia decreciente del consumo diario de tabaco entre los varones, que pasa del 54,6 al 38,3%, mientras que el consumo en las mujeres aumenta del 20,9% en 1983 al 24,5% en 1992, pero se mantiene estable en 2000 (24,5%). La proporción de fumadores que manifiesta su deseo de dejar de fumar aumenta en ambos sexos entre 1992 y 2000 y pasa del 54,2 al 65,7% del total de los fumadores. También se produce en este período un aumento de la proporción de fumadores que declara haber sido aconsejado para dejar de fumar por su médico (del 36,1 al 48,1%). Las tendencias en ambos sexos muestran un mayor consumo en los grupos socioeconómicos más desfavorecidos.

Conclusiones. Los resultados del estudio confirman la disminución de la prevalencia del consumo diario de tabaco y el incremento de fumadores que se plantean dejar de fumar, paralelo al aumento del consejo médico. Sin embargo, las tendencias entre los grupos más jóvenes permanecen estables, lo que obliga a intensificar los esfuerzos en este grupo de población.

Palabras clave: Tabaquismo. Salud pública. Encuesta de salud.

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A commentary follow
this article
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Introduction

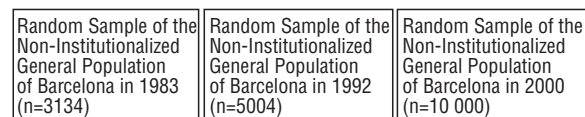
Despite repeated warnings about the damage caused by smoking—a habit that is responsible for more than 45 000 deaths annually in Spain¹—the epidemic has continued to spread in recent years, especially among women.^{2,3} While the prevalence of the habit has diminished overall in recent decades among men in the European Union, consumption of tobacco products among women has increased steadily.⁴ Among the causes for this increase are certain beliefs that the cigarette industry has helped to disseminate, such as the presumably lower levels of harm caused by “light” (low tar, low nicotine) cigarettes, and the claims of a relationship between smoking and weight control.⁴

Between 1982 and 1998 in Catalonia (northeastern Spain) the prevalence of smoking decreased in all age groups among men, whereas the prevalence increased among women, especially in the 24-to-54-year-old age group.⁵ However, men started their habit earlier, smoked more cigarettes daily, and had greater degrees of dependence.⁶ Overall figures for Spain between 1987 and 1997 showed that quitting among men increased in all age groups, whereas in women, the proportion who quit increased only in the 25-to-44-year-old group, and only among women in the social classes associated with nonmanual professions.⁷

In addition to sex, socioeconomic level has been identified as an important variable in trends for cigarette consumption.⁸ In Spain, as seen in other southern European countries, it was reported in the 1980s that cigarette consumption first declined among men in higher socioeconomic classes, whereas there had been a marked increase in the prevalence among women who belonged to less privileged classes, especially in younger age groups.^{7,9,10} In older women the highest prevalence was seen among the more privileged social classes, a finding that indicated that we now face phase 3 of the epidemic according to the model of spread of smoking described by López et al.⁸ English-speaking countries, on the other hand, are in phase 4, characterized by greater consumption by both men and women in less privileged classes.¹¹

In Spain few long-range (historical) studies have been published, making it especially important to obtain indicators that allow us to monitor tobacco product consumption and its trends in relation to sociodemographic factors. This information could be used to design and amend appropriate preventive policies.¹² The aim of this study was to describe, on the basis of data from city health surveys, the trends in tobacco product consumption and the changes in associated epidemiologic factors among residents of the city of Barcelona in 1983, 1992 and 2000. We also

Material and methods



General Scheme of the Study

Time series study of the changes in the prevalence of smoking habit based on data from the Barcelona Health Surveys for the years 1983, 1992, and 2000.

describe the changes in age when smoking habit started, attitude toward smoking and medical advice to quit received between 1992 and 2000—items that were not included in the 1983 survey.

Methods

The information was obtained from data compiled with the Barcelona Health Survey (BHS) (*Encuesta de Salud de Barcelona, ESB4*). Data were obtained during home interviews of a sample of the noninstitutionalized population of persons aged 15 years or older. Interviews were carried out in the years 1983, 1992, and 2000 according to survey methods described previously.^{13–15} The total sample consisted of 3134 persons in 1983, 5004 persons in 1992, and 10 000 persons in 2000. Sampling in 2000 was weighted for each district of the city to obtain a representative sample of 10 030 persons. The survey lasted from January to June in 1983, January to December in 1992, and March 2000 to February 2001 for the 2000 survey.

We compared the responses for the items concerning tobacco product consumption in the years of the survey by persons older than 14 years. In the 1983 survey smokers were considered persons who habitually or occasionally smoked cigarettes, cigars or pipes at the time of the survey, and ex-smokers were considered persons who had smoked previously. For the years 1992 and 2000 smokers were considered persons who smoked one or more cigarettes per day, and ex-smokers were considered persons who had done so previously. To calculate quitting rates the percentage of ex-smokers was divided by the sum of ex-smokers and smokers, after excluding nonsmokers.

The 1992 and 2000 surveys included items about motivation for quitting, desire to quit and previous attempts to quit during the previous 12 months. Smokers were asked whether during the week prior to the interview they had been asked to stop smoking in a public area or at home, and whether their physician had ever advised them to quit smoking. Although no data for these items were available from the 1983 survey, we present compara-

tive data for the responses to these items for the years 1992 and 2000.

The participant's social class was determined on the basis of his or her occupation. The adaptation to the Spanish population of the British Registrar General's classification¹⁶ was used to identify social class as I professional (managerial and university professionals); II intermediate (professionals with some university-level education); III skilled (manual and nonmanual) workers; IV skilled and partly-skilled manual workers, or V unskilled manual workers. For the purposes of our analysis, the classes were grouped as I-II, III, and IV-V.

Results

Table 1 shows the changes in prevalence of smoking habit by age and sex for the years 1983, 1992, and 2000. In general, the difference between sexes decreased as a result mainly of the decrease in prevalence in men from 54.6% to 38.3%. In women, on the other hand, there was a slight increase from 1983 (20.9%) to 1992 (25.4%), and no further change in 2000 (24.5%). The net result was a moderate

TABLE 1 Changes in the Prevalence of Smoking According to Age and Sex, Barcelona 1983, 1992, and 2000

	1983 ^a	1992 ^b	2000 ^c
Men			
15-24 years	46.0	42.6	40.3
25-34 years	64.4	60.1	45.8
35-44 years	66.7	54.6	47.0
45-54 years	58.4	50.8	41.9
55-64 years	52.0	46.0	33.3
65 or older	40.1	26.4	23.3
15-64 years	54.6	46.2	38.3
Women			
15-24 years	42.4	41.7	42.2
25-34 years	39.2	54.3	41.7
35-44 years	25.4	36.4	42.2
45-54 years	14.1	15.7	22.5
55-64 years	9.0	9.0	10.1
65 or older	4.7	3.6	2.2
15-64 years	20.9	25.4	24.5
Both sexes			
15-24 years	44.1	42.2	41.3
25-34 years	51.0	57.2	43.8
35-44 years	44.5	45.2	44.3
45-54 years	37.1	31.1	32.1
55-64 years	26.5	25.4	20.9
65 or older	18.6	13.3	10.5
15-64 years	36.2	35.1	30.9

^aHabitual + occasional. ^bMore than 1 cig/day + fewer than 1 cig/day.

^cDaily + occasional.

TABLE 2 Changes in Quitting Patterns According to Sex and Age, Barcelona 1983, 1992 and 2000

	1983		1992		2000	
	Ex-Smokers		Ex-Smokers		Ex-Smokers	
	n	%*	n	%*	n	%*
Men						
15-24 years	6	8.7	25	13.8	56	17.3
25-34 years	14	15.2	51	19.4	92	22.6
35-44 years	21	18.3	67	28.9	163	34.4
45-54 years	41	28.9	57	31.0	187	42.3
55-64 years	41	38.5	100	41.5	246	56.7
65 or older	59	52.9	180	65.6	416	69.8
Total	183	28.6	480	34.9	1160	43.3
Women						
15-24 years	12	14.9	22	12.2	55	16.1
25-34 years	17	24.1	43	18.6	94	25.2
35-44 years	14	25.5	43	26.7	181	35.2
45-54 years	3	12.6	27	35.1	118	45.6
55-64 years	8	31.8	16	31.9	73	52.7
65 or older	6	37.6	36	67.9	92	77.7
Total	59	22.0	187	24.9	612	35.2
Both sexes						
Total	242	26.7	668	31.3	1773	40.1

*Quitting rate: ex-smokers/(smokers + ex-smokers).

decrease in the overall prevalence of smoking in the general population, such that the proportion of people who smoked daily decreased from 36.2% to 30.9% during the period studied here. The age of maximum consumption remained stable among men at 15 to 34 years, but increased in women, in whom the greatest prevalence was seen in the 15-24-year age group in 1983, the 25-to-34-year group in 1992, and the 35-44-year group in 2000. It should be noted, however, that in 2000 the prevalence in this latter group was similar to that in the youngest age group.

Table 2 shows the changes in quitting rates by age and sex. In the general population there was an increase in the percentage of ex-smokers from 26.7% in 1983 to 31.3% in 1992 and 40.1% in 2000. This increase reflected mainly persons older than 35 years who quit. The increase in quitting rate was seen in both sexes, and the increase in women was greater in relative terms than the increase in men (60% vs 51%). The proportion of ex-smokers increased with age in both sexes, although the increase among women was much larger in relative terms: from 37.6% in those aged 65 years or more in 1983 to 77.7% in 2000. Among men the percentage of ex-smokers in this age group increased from 52.9% to 69.8%.

TABLE 3 Changes in Variables Associated With Smoking Habit According to Age, Barcelona, 1992 and 2000

	Mean Age at Start		Would Like to Quit		Has Tried to Quit		Doctor Has Advised Him or Her to Quit	
	1992 Mean	2000 Mean	1992 %	2000 %	1992 %	2000 %	1992 %	2000 %
Men								
15-24 years	16.0	16.0	47.5	55.7	26.9	30.5	21.8	37.1
25-34 years	17.1	17.3	53.1	69.2	33.2	35.9	31.6	43.6
35-44 years	17.4	17.5	58.0	69.3	32.8	33.0	30.6	47.7
45-54 years	17.8	18.2	63.9	69.0	32.0	36.9	46.9	52.2
55-64 years	17.5	18.7	56.6	62.1	37.2	38.5	57.0	56.0
65 or older	17.1	17.9	48.0	57.7	42.1	38.1	54.7	66.3
Total	17.1	17.5	54.6	64.7	33.4	35.1	38.3	48.9
Women								
15-24 years	16.0	15.8	48.3	61.8	37.2	39.1	29.8	40.7
25-34 years	16.7	17.5	58.4	68.0	40.4	35.6	38.8	44.4
35-44 years	19.4	18.2	56.9	71.7	25.6	37.5	31.3	49.6
45-54 years	23.1	20.3	47.8	64.2	25.0	33.8	28.2	50.3
55-64 years	29.2	25.8	50.4	73.7	30.8	39.4	23.8	61.7
65 or older	32.2	27.5	39.2	55.1	26.1	39.2	17.7	57.2
Total	18.8	18.3	53.4	67.1	34.3	37.1	32.4	47.1
Both sexes								
Total	18.3	17.8	54.2	65.7	33.7	36.0	36.1	48.1

The changes from 1992 to 2000 in mean age at the start of the smoking habit, the desire to quit, previous attempts to quit, and medical advice to quit are shown in table 3. Mean age at the start of the habit decreased slightly from 18.3 to 17.8 years, mainly as a result of the decrease in mean age in women from 18.8 to 18.3 years. There was also a marked increase in the proportion of smokers who said they would like to quit, which rose from 54.2% to 65.7%, with no notable differences between sexes. However, the proportion of persons who had tried to stop smoking during the preceding 12 months remained stable during this period, with a slight increase from 33.7% to 36%. In both men and women the proportion of smokers who said they had been advised by their physician to quit smoking increased—especially among women—such that in 2000 the proportion approached 50% in both sexes.

Table 4 shows the changes in consumption of tobacco products by social class and sex. In men the socioeconomic differences became larger during the period of study: the proportion of smokers was similar in all socioeconomic groups in 1983, whereas in 2000 the proportion of smokers was much lower in groups I-II (33.4%) than in groups IV and V (42.3%). In women,

however, the proportions tended to equalize across socioeconomic groups, with a substantial increase in group IV-V, among whom the proportion of habitual smokers increased from 14.8% to 21.5%.

Discussion

The results of this study disclose some encouraging findings: the trend toward decreasing tobacco use among men was maintained, and the habit showed signs of stabilizing among women, in whom the prevalence of smoking may have reached its peak. Moreover, in the study period there was a marked increase in the proportion of smokers who wished to quit, although the proportion who stated they had tried to quit showed no changes. Of note is the considerable increase in the proportion of smokers who said they had been advised by their physician to stop smoking. In this connection the increasingly active role of primary care professionals in supporting the decision to quit is worth emphasizing.^{17,18}

In contrast, there was no perceptible increase in social pressure to restrict smoking in public areas. A final observation of note is that the results of this study are consistent with the model of spread of the smoking epidemic: the data show a marked decrease among men in the more privileged social classes, while among women, the greatest relative increase was seen in the less advantaged groups.^{2,3}

Before we turn to the implications of the results, some limitations inherent in the methods of the interview-based health survey should be noted. Because this was a cross-sectional study, it is not possible to draw inferences about cause. Moreover, we should note that the items that inquired about the consumption of cigarettes or other tobacco products differed slightly between 1983 and later surveys, and that this made it necessary to analyze habitual and occasional smokers together.

Overall, the trends we observed are similar to those described in other studies during comparable periods both in the autonomous community of Catalonia¹⁹ and in other industrialized countries.²⁰ However, our data show for the first time in our setting an overall tendency for smoking to decrease, as the decrease in men was greater than the increase in women. Nevertheless the trend among people

TABLE 4 Changes in Cigarette Consumption According to Social Class and Sex, Barcelona 1983, 1992, and 2000

	1983				1992				2000			
	Smokers (Habitual + Occasional)		Ex-Smokers		Smokers (> 1 cig/day + < 1 cig/day)		Ex-Smokers		Smokers (Daily + Occasional)		Ex-Smokers	
	n	%	n	%	n	%	n	%	n	%	n	%
Men												
Social class												
I-II	95	54.3	34	19.3	228	42.8	149	28.1	346	33.4	304	29.3
III	111	54.3	44	21.3	210	45.9	104	22.8	447	37.2	359	29.9
IV-V	244	54.6	104	23.3	398	50.1	174	22.0	712	42.3	487	29.0
Total	451	54.5	182	22.0	836	46.9	428	24.0	1505	38.4	1150	29.3
Women												
Social class												
I-II	50	34.0	21	14.5	172	35.3	52	10.7	264	32.0	147	17.8
III	67	29.4	18	7.7	157	31.0	61	12.1	370	27.7	217	16.2
IV-V	81	14.8	16	3.0	210	20.2	60	5.8	478	21.5	228	10.2
Total	198	21.5	55	6.0	539	26.5	174	8.5	1111	25.4	591	13.5
Both sexes												
Social class												
I-II	146	45.0	55	17.1	399	39.2	201	19.8	610	32.8	450	24.2
III	178	41.2	61	14.2	367	38.0	166	17.2	817	32.2	576	22.7
IV-V	325	32.7	121	12.2	608	33.2	235	12.8	1190	30.5	715	18.3
Total	649	37.1	237	13.6	1375	36.0	602	15.8	2616	31.5	1741	21.0

aged 15 to 24 years, in whom smoking increased between 1993 and 2000, does not invite optimism in the light of findings in other countries such as the USA, where—despite notable advances in the control of smoking—the trend among young people had not decreased, and in fact increased during the 1990s.²¹ This trend is probably related with increasingly selective marketing efforts aimed at these age groups.^{22,23}

During the study period there was a substantial increase in the proportion of smokers who wished to quit, although the proportion who said they had tried to quit showed no change. The proportion of smokers who wished to stop smoking—about 70% in 2000—indicates a degree of dissociation between intended behavior and the actual smoking habit which can only be explained by the high, although frequently underestimated, degree of addiction.²⁴ This finding points out the need to facilitate access to resources that will help persons quit, starting with assistance from health professionals—who should be prepared to make greater contributions in this area. In this connection the considerable increase in the proportion of smokers who said they had been advised by their doctor to stop smoking is noteworthy and is a step in the right direction.¹⁸

One of the most unexpected findings was that there was no perceived increase in social pressure to restrict smoking

in public areas despite the fact that on occasion, social intolerance, and tension are invoked as arguments supposedly against the need to regulate and control smoking. However, we cannot rule out that the apparent stability in perceived social control is not due to lessened social pressures, but rather to the possibility that smokers voluntarily smoke less in public areas. This would make it necessary to obtain other indicators to more precisely monitor social pressure, particularly pressure from nonsmokers.

The results of this study are consistent with the model of spread of the smoking epidemic, as they show a marked decrease in smoking among men in more privileged social classes and at the same time an increase in women in less privileged classes.^{7,8,25} In other words, the population of Barcelona is in phase 3 of the smoking epidemic, like some countries in southern Europe.¹¹ As noted above, we cannot relax our vigilance: the combination of the enormous addictive power and low social visibility of the health effects of smoking, along with the huge resources the industry devotes to advertising and promotion, make it necessary to maintain policies of active vigilance and control of smoking as a public health problem. Steps should also be taken to ensure that adequate resources are available to undertake this vigilance.

Discussion
Key points

What Is Known About the Subject

- Smoking is the main preventable cause mortality in industrialized countries.
- Despite overwhelming evidence of its health effects, smoking is still one of the most prevalent risk factors in our setting, affecting one third of the adult population.

What This Study Contributes

- The trend for smoking to decrease among men and to stabilize among women was maintained. Decreases were most notable in the higher socioeconomic levels.
- The proportion of smokers who wish to quit increased, as did the proportion of those who said their physician had advised them to quit.
- The results of this study are consistent with the model of spread of the smoking epidemic, and show that there is a need for greater efforts to increase awareness among women and young people, and a need to make it easier for men who smoke to quit.

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References

- González Enríquez J, Villar Álvarez F, Banegas Banegas JR, Rodríguez Artalejo F, Martín Moreno JM. Trends in the mortality attributable to tobacco use in Spain, 1978-1992: 600 000 deaths in 15 years (article in Spanish). *Med Clin (Barc)* 1997;109(13):577-82.
- Fernández E, Schiaffino A, Peris M. Tabaquismo en mujeres: un problema de salud emergente. *Enf Emerg* 2002;3(4):180-6.
- Nebot M. Tabaquismo en mujeres: un problema de salud emergente. *Enf Emerg* 2001;3(4):174-5.
- Joossens L, Sasco A, Salvador T, Villalbí JR. Women and tobacco in the European Union. *Esp Salud Publica* 1999;73(1):3-11.
- Pardell H, Saltó E, Tresserras R, Junca S, Fernández E, Vicente R, et al. Smoking prevalence trends in Catalonia, Spain, 1982-1994. *Med Clin (Barc)* 1997;109(4):125-9.
- Saltó E, Cabezas C, Nebot M. Tabac. Dones i homes. Dues maneres de viure. Dues realitats de salut. *Annals de Medicina* 2000;83(Supl 1):10-4.
- Regidor E, Gutiérrez-Fisac JL, Calle ME, Navarro P, Domínguez V. Trends in cigarette smoking in Spain by social class. *Prev Med* 2001;33(4):241-8.
- López AD, Collishaw NE, Piha T. A descriptive model of the cigarette epidemic in developed countries. *Tob Control* 1994;3:242-7.
- Nebot M, Borrell C, Ballestín M, Villalbí JR. Prevalencia y características asociadas al consumo de tabaco en población general en Barcelona entre 1983 y 1992. *Rev Clin Esp* 1996;196:359-64.
- Borrell C, Rue M, Pasarin MI, Rohls I, Ferrando J, Fernández E. Trends in social class inequalities in health status, health-related behaviors, and health services utilization in a Southern European urban area (1983-1994). *Prev Med* 2000;31(6):691-701.
- Cavelaars A, Kunst AE, Geurts JM, Criaseli R, Grötvedt L, Helmer U. Educational differences in smoking: international comparisons. *BMJ* 2000;320:1102-7.
- Villalbí JR, Nebot M. Salud pública y tabaco. In: Martínez-Navarro F, Marset P, Navarro V, Gili M, Antó JM, editors. *Salud pública*. Madrid: McGraw Hill-Interamericana, 1998.
- Antó JM, Domingo A, Company A. Aspectos metodológicos de la Encuesta de Salud de Barcelona. *Gac Sanit* 1983;1(Supl):50-60.
- Borrell C, Arias A, Baranda L, Lozares C. Manual de l'enquesta de salut de Barcelona 1992. Barcelona: Àrea de Salut Pública de l'Ajuntament de Barcelona, 1992.
- Borrell C, Baranda L 2000, Rodríguez M. Manual de la encuesta de salud de Barcelona 2000-2001. Barcelona: Institut Municipal de Salut Pública, 2001.
- Grupo SEE y Grupo semFYC. Una propuesta de medida de la clase social. *Aten Primaria* 2000;25:350-63.
- Clemente ML, Alonso JA, Córdoba R, Grandes G, Nebot M, Solbes A, et al. Guía para el abordaje del tabaquismo en atención primaria. *Aten Primaria* 1999;30(24):101-8.
- Cabezas C. Intervenciones sobre el tabaquismo desde la atención primaria. *Aten Primaria* 2000;25(8):584-8.
- Jané M, Saltó E, Pardell H, Tresserras R, Guayta R, Taberner JL, Salleras L. Prevalencia del tabaquismo en Cataluña 1982-1998: una perspectiva de género. *Med Clin (Barc)* 2002;118(3):81-5.
- Molarius A, Parsons RW, Dobson AJ, Evans A, Fortmann SP, Jamrozik K, et al. Trends in cigarette smoking in 36 populations from the early 1980s to the mid-1990s: findings from the WHO MONICA project. *Am J Public Health* 2001;91(2):206-12.
- Anonymous. Trends in cigarette smoking among high school students-United States 1991-1999. *MMWR* 2000;49(33):755-8.
- Biener L, Siegel M. Tobacco marketing and adolescent smoking: more support for a causal inference. *Am J Public Health* 2000;90(3):407-11.
- Pierce JP, Distefan JM, Jackson C, White MM, Gilpin EA. Does tobacco marketing undermine the influence of recommended parenting in discouraging adolescents from smoking? *Am J Prev Med* 2002;23(2):73-81.
- Breslau N, Johnson EO, Hiripi E, Kessler R. Nicotine dependence in the United States: prevalence, trends, and smoking persistence. *Arch Gen Psychiatry* 2001;58(9):810-6.
- Paluzie G, Sans S, Balaña L, Puig T, González-Sastre F, Balaguer-Vintró I. Tendencias en el hábito tabáquico según nivel de educación entre 1986 y 1996: el estudio MONICA. Catalonia. *Gac Sanit* 2001;4:303-11.

COMMENTARY

Trends in Tobacco Use in Spain

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Epidemiologic Features of Tobacco Use in Spain

In Spain few long-term studies have been published on tobacco use. It is only since 1987 that data on the prevalence of cigarette consumption in Spain have become available from the various National Health Surveys (*Encuestas Nacionales de Salud, ENSE*). According to the 2001 ENSE, the prevalence of tobacco use in the Spanish population aged 16 years and older was 34.4%. In comparison with the results from the 1987 ENSE, which found a prevalence of 38.4%, the more recent figure reflects a slight decrease in tobacco use in Spain.¹ Preliminary results from the 2003 ENSE (first trimester 2003) set tobacco use at 31% of the population older than 16 years of age. The data, however, are provisional and have not yet been published.

Tobacco use patterns vary considerably with sex and age. In the 2001 ENSE the percentage of men who smoked was 42.1%, whereas the figure for women was 27.2%. When changes in tobacco use in Spain between 1987 and 2001 were analyzed, it was found that smoking had decreased considerably among men from 55% to 42.1%, whereas among women smoking had risen from 23% to 27.2%. The trend is for tobacco use to decrease in men and to increase in women, although among the latter the prevalence seems to be leveling off.

By age the highest percentage of smokers is seen in the 25-to-44-year-old group (48.2%), followed by 16-to-24-year-olds (41.7%).

Of note is the fact that among young women aged 16 to 24 years, the percentage of tobacco use is higher than in men (40.8% in men, vs 42.7% in women). This predominance of female smokers is seen again in the school-aged population. According to data from the most recent survey on drug use among schoolchildren (*Plan Nacional Sobre Drogas* for the year 2000), 30.5% of all students aged 14 to 18 years had smoked during the preceding month. The prevalence of tobacco use was higher among adolescent girls (35.8%) than among adolescent boys (25.2%).

It is important to use indicators that make it possible to monitor tobacco use and its trends in relation to sociodemographic factors, as this will allow us to design and amend preventive policies. In this connection it is worth drawing attention to the pertinence and usefulness of the

Key Points

- Data from both the Barcelona Health Surveys and the National Health Surveys show that in Spain, the prevalence of tobacco use is decreasing. However, tobacco use remains high in Spain in comparison to neighboring European countries.
- The percentage of men who smoke has decreased notably in recent years, whereas the percentage of women smokers has increased.
- More than 60% of all smokers would like to quit.
- Health advice from health care professionals about quitting is a fundamental tool in primary care intervention.

Barcelona Health Survey (*Encuesta de Salud de Barcelona, ESBA*), which provides epidemiological data on tobacco use for periods earlier than those covered by the national-level ENSE performed by the Spanish Ministry of Health.

The data for overall prevalence and distribution by age group from the ESBA are similar to those from the ENSE, a similarity that emphasizes the need to focus prevention and control efforts on women and young persons. A curious finding was the geographical variation in tobacco use in Spain, with appreciable differences in the prevalence of smoking between autonomous communities. The highest prevalence was found in Cantabria and Murcia, and the lowest prevalence in Castilla-La Mancha, the Balearic Islands, and Aragon.²

Smoking Worldwide

The prevalence of tobacco use varies across countries in overall terms and in distribution by sex. In the European Union, Canada, and the USA, tobacco use has leveled off and is beginning to decline. However, on a worldwide le-

vel the number of both male and female smokers continues to rise.

In the European Union the prevalence of tobacco use varies by country. In comparison with other European countries, Spain is near the top of the list in tobacco use. The countries where tobacco use is lowest are the United Kingdom (27%), Sweden (20%) Denmark (27%), Italy (27.5%), The Netherlands (27.5%), France (27%), and Portugal (23.3%). At the head of the ranking in the prevalence of tobacco use are Poland (34%), Russia (45%), Greece (45%), and Turkey (40%).³ The World Health Organization (WHO) has recommended reducing the number of smokers in each country to below 20%.

Other Determinants of Tobacco Use

Aside from sex and age, socioeconomic level has been identified as a variable that explains trends in tobacco use. In Spain the percentage of the population who have quit smoking is highest in the higher educational levels. The trend is toward higher rates of use in the less privileged classes, both for men and for women.²

The Barcelona Health Survey provides interesting data on smokers' intention to quit, previous attempts to quit, and their recall of health advice from their physicians to quit—information that is not available from the national-level ENSE surveys.

With regard to the intention to quit, the Barcelona Health Survey found a prevalence of 65.7%. This figure is similar to that in other studies that reported a figure of about 70% of all smokers who wished to quit. Almost half (46%) of all smokers try to quit each year, and more than 70% of all smokers have some contact with health services each year.⁴

In the Second Study of the Effectiveness of Preventive Activities carried out as part of the Preventive and Health Promotion Activities Program (*Programa de Actividades Preventivas y Promoción de la Salud, PAPPs*) of the Spanish Society of Family and Community Medicine (semFYC, 2001) it was found that 33% of all smokers had received advice against smoking. In the recent Population Survey to Evaluate and Determine the Perception of Preventive Activities carried out under the PAPPs program (2003), it

was found that 45.3% of the population recalled having received advice at least once from their general practitioner to stop smoking. This figure is similar to the proportion of smokers in the ESBA (48.1%) who said they had been advised by their physician to stop smoking. It is noteworthy that health advice to quit smoking given by a health professional is the preventive activity with the highest cost-effectiveness ratio.⁵ The classic review by Schwartz of interventions to control smoking found that the median abstinence rate per year for physician's advice was 6%, with a range of 3% to 13%.⁶

Tobacco use involves a component of substance addiction (nicotine), a psychological component, and a social dependence component. This makes it necessary to investigate smokers' attitudes toward tobacco use and to consider social trends related with smoking, in order to develop an all-encompassing approach to this important public health problem. The excellent article this editorial is based on explores epidemiological data on tobacco use, but also looks at motivational and social aspects that are potentially of great use to us in the prevention and control of smoking—where primary care clearly has a major role to play.

References

1. Ministerio de Sanidad y Consumo. Plan Nacional de Prevención del tabaquismo. 2003. Available at www.msc.es
2. Ministerio de Sanidad y Consumo. Encuesta Nacional de Salud de España 1987, 1993, 1995, 1997. Madrid: Ministerio de Sanidad y Consumo 1989, 1995, 1997, 1999.
3. The Tobacco Control Country Profiles (Second edition 2003). American cancer Society, World Health Organization and International Union Against Cancer. Available at www.who.int www.uicc.org www.cancer.org
4. A Clinical practice guideline for treating tobacco use and dependence: A US Public Health Service Report. The Tobacco Use and Dependence Clinical Practice Guideline Panel, Staff, and Consortium Representatives. JAMA 2000;283(24):3244-54. Available at www.cdc.gov
5. Cummings SR, Rubin SM, Oster G. The cost-effectiveness of counselling smokers to quit. JAMA 1989;261(1):75-9.
6. Schwartz JL. Methods of smoking cessation. Med Clin North Am 1992;76(2):451-76.