

Attitudes of teachers about tobacco prevention at school*

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SUMMARY

Background: to know the smoking habits of the Spanish teachers, the anti-smoking teaching and the influence on the smoking habits of the students.

Methods: a cross-sectional study was conducted using a self-administrated and anonymous questionnaire. Of the he questionnaires addressed to the headmasters of 8,000 school centers selected as a random sample among the 18,457 existing in Spain, 3,050 valid answers were received.

Results: 29.7% of Spanish teachers are smokers, smoking significantly more ($p < 0.001$; 95% C.I.) in Secondary education ($37.2 \pm 15.9\%$) than in Primary education ($26.2 \pm 19.4\%$) and 7% smoke in front of the pupils, significantly more in state schools ($p < 0.05$) and in Secondary education ($p < 0.001$). There are positive correlations between the percentage of smoking teachers and the percentage of pupils who tasted tobacco ($p < 0.001$) or are regular smokers ($p < 0.001$), and also between the percentage of teachers who smoke in front of the pupils and the percentage of students who tried tobacco ($p < 0.001$) or smoke regularly ($p < 0.001$). In the school centers which apply the non-smoking regulation or teach antitobacco contents, the percentage of teachers smoking in front of pupils is significantly lower ($p < 0.001$).

Conclusions: the attitude of teachers has an influence on the students; headmasters must ask for the application of non-smoking regulation and include health education contents in school curriculum.

Key words: Headmasters. School. Teachers. Tobacco. Youth. School. Teachers.

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INTRODUCTION

The prevalence of cigarette smoking varies greatly between countries (1). In Spain, men's smoking prevalence has reached a peak and is now decreasing. Women's, boys' and girls' smoking prevalence are still increasing (2). Thus, efforts to prevent the initiation of tobacco use among children and adolescents must be intensified. School programs designed to prevent tobacco could become one of the most effective strategies available to reduce tobacco use.

Tobacco-prevention activities should focus on school-age children and adolescents. Schools are ideal settings in which to provide such programs to all children and adolescents. Evidence suggests that school health programs can be an effective mean of preventing tobacco use among youth. One of the keys elements for anti-smoking information for young people are the teachers, and the ideal setting for the anti-tobacco campaigning is the school (3).

Because tobacco use is one of several interrelated health risk behaviours at schools, CDC (Center for Disease Control) recommends tobacco-use prevention programs to be integrated as part of comprehensive school health education within broader school health program (4). In Spain the school-based programs are integrated in Health Education (HE), and are under the responsibility of all teachers.

However, in practice, not all school and not all teachers participate in this type of educational.

School have been slow to integrate HE into their curriculum. However, public education, stop-smoking programs and school prevention programs, were the main of tobacco control efforts.

The aims of this study were to know the influence of teachers' attitudes about tobacco on pupils smoking habits, the influence of non-smoking regulation and health education on teenagers tobacco-use behaviour, and the relation between the teachers smoking habits on anti-tobacco teaching.

METHODS

Study Design

A survey was carried out in Spanish schools. The study was authorised by the Spanish Education and Culture Department (MEC) who endorsed the development introducing it to the headmasters of the educational centers by letter, and supported by the Tobacco Group of the Spanish Society of Pneumology and Thoracic Surgery.

During April, May and June 1997, a cross-sectional study was made by means of a self-administrated anonymous questionnaire addressed to the headmasters of the Primary and Secondary schools, in order to know their opinion about the performance in the school curriculum of their centers of the educational contents on health education in general and use of tobacco in particular, along with their opinions about the implementation of official anti-tobacco legislation, the teachers' attitude about tobacco and its influence on the students' tobacco use.

The questionnaire was made up of 27 items which were designed in order to be automatically corrected by the Data Process Center (DPC) of the University of Salamanca (Spain).

School Recruitment

The questionnaire was mailed to school headmasters with a letter introducing the study on behalf of the Educational and Culture Department (MEC) and with an envelope with paid postage in order to make the answer easy.

Statistical analysis

To calculate the survey error possibilities the following formula was applied:

$$n = \frac{N \times K^2 \times P(1-P)}{N \times E^2 + K^2 \times P \times (1-P)}$$

Were E is the error made, n is the sample observed, N the universe, P and K constant values of 0.50 and 2 respectively.

The universe of the survey was the total amount of Spanish schools (18,457) and the sample the 3,050 surveys correctly filled in. The survey shows a maximum deviation of 1.65% for results of population with confidence interval of 95.5%. This deviation is much lower than the maximum allowed of 3% which proves that the sample studied is absolutely representative and consequently the data obtained can be extrapolated to all Spanish schools.

To check that the sample and the universe are of similar characteristics regarding their composition, according to the percentages of state schools and the subsidised-private schools and also to the type of education given (Primary, Secondary or both), the statistical test of contrast of proportions for dependent samples was used. In this way, the typical punctuation (Z) corresponding to these proportions acted as survey contrast. For this, the following formula was applied:

$$Z = \frac{P_1 - P_2}{\sqrt{\frac{P_1 - Q_1}{N_1} + \frac{P_2 - Q_2}{N_2}}}$$

Being P_1 and P_2 the percentages to compare in the first and second series, Q_1 and Q_2 ($1-P_1$) and ($1-P_2$) respectively and N_1 and N_2 the absolute values of both series (of the sample studied and of the universe where the sample comes from).

From those estimations it could be deduced that both samples are compared to a confidence intervals of 95%, not only for their composition concerning the kind of school but also the kind of education given. That is why the data obtained in the sample to be studied are representative also of the total amount of Spanish schools either state or private and either Primary, Secondary or both.

The data were processed and codified by the DPC of Salamanca University. Later, data calculations were performed using the statistic program SPSS® (release 6.1. Chicago, IL) for Windows.

RESULTS

From the total of 8,000 questionnaires sent, more than 3,100 schools answered. There were finally

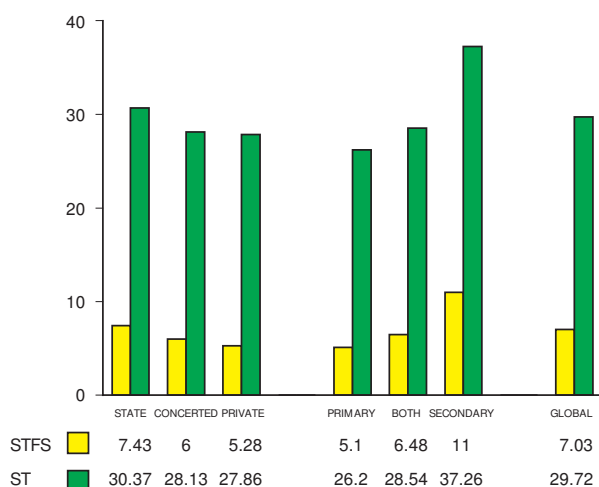


Figure 1.—Percentages of smoking teachers (ST) and of teachers who smoke in front of students (STFS) depending on the kind of school (state, subsidized or private) and on their level (Primary, Primary and Secondary or just Secondary).

3,050 valid for the study, 38.1% of the schools sampled, and 16.5% of the total number of the schools in Spain.

The main topics of the valid sample for the study are the following ones: 3,050 valid answers received, 1,032 for Primary education centers, 694 for Secondary education and 1,299 where both. A total of 2,308 correspond to state schools, 520 to subsidised centers and 159 to private schools. In table I are detailed these schools characteristics.

For the school headmasters (Fig. 1), 29.7% of teachers are smokers ($29.7 \pm 18.4\%$), smoking significantly more ($p < 0.001$) in Secondary education ($37.26 \pm 15.9\%$) than in Primary education (26.2 ± 19.4). There are no significant differences between the percentage of teachers smoking in public (30.3 ± 18.2) and private centers (27.8 ± 19.4).

No significant differences found ($p > 0.05$) in the educational contents of HE and the teachers' smoking prevalence. However (Fig. 2), there is a positive correlation of 0.26 between the percentage of smoking teachers and the percentage of students who tasted tobacco ($p < 0.001$), and 0.27 between the percentage of smoking teachers and the one of usual smoking students ($p < 0.001$).

A $7 \pm 14.5\%$ of teachers, smoke in front of students, inside schools' areas, considerably more ($p < 0.05$) in public institutions (7.4 ± 15.0), than in private schools (5.3 ± 10.7), and in secondary schools than in primary ones (11.03 ± 17.4 us 5.11 ± 12.58 ; $p < 0.001$). Figure 1 shows these aspects.

In those institutions where the legislation fulfilment is required, the percentage of teachers who smoke in front of students ($6 \pm 12.9\%$), is significantly lower

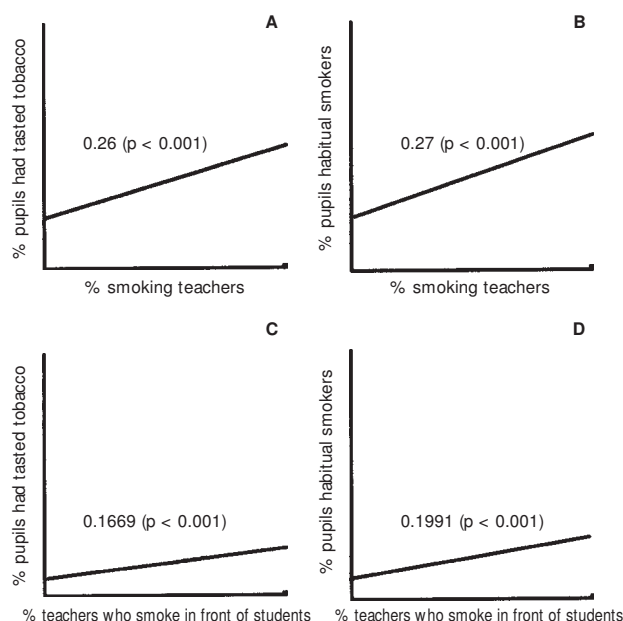


Figure 2.—Correlations and statistics significance that can be seen between the percentage of smoking teachers and the percentage of students who tasted tobacco eventually (A) between the percentage of smoking teachers and the percentage of regular smoking students (B), between the percentage of teachers who smoke in front of students and the percentage of students who tasted tobacco (C) and between the percentage of teachers who smoke in front of students and the percentage of regular smokers (D).

($p < 0.001$) than in those ones in which is not required ($12.9 \pm 20\%$). In addition, at schools where anti-tobacco education is imparted, the percentage of teachers who smoke in front of students ($6.7 \pm 13.8\%$) is considerably lower ($p < 0.001$) than at schools where these education isn't imparted ($8.1 \pm 16\%$).

There is a positive correlation of 0.16, between the percentage of teachers smoking in front of students and the percentage of students who tasted tobacco ($p < 0.001$) and 0.2 between the percentage of teachers who smoke in front of students and regular smoking students ($p < 0.001$). Both cases are shown in figure 2.

Directors of institutions where there is a higher percentage of smoking teachers and teachers who smoke in front of students, believe that HE has to be performed, not only by teachers, but also, by public health professionals, with a positive correlation in both aspects of 0.036 (small but statistically significant; $p = 0.023$).

In a multiple regression in which the depending variable is the percentage of students who tasted tobacco the factors with a higher influence are the percentages of smoking teachers and teachers who smoke in front of students. The same happens when the depending variable is the percentage of regular smokers.

Table I
Distribution of schools centers of the sample according to their main characteristics

	State Schools	Subsidied- private Schools	Private Schools	Total
Primary education	945 (31.9%)	62 (2.1%)	8 (0.3%)	1,015 (34.2%)
Both primary and secondary education	788 (26.6%)	373 (12.6%)	112 (3.8%)	1,273 (42.9%)
Secondary education	563 (19%)	82 (2.8%)	33 (1.1%)	678 (22.9%)
Total	2,296 (77.4%)	517 (17.4%)	153 (5.2%)	

DISCUSSION

Tobacco consumption by young and adolescent people in school age, is a serious problem of Public Health (5-8). The highest prevalence in youth is reached in High school, but the first tobacco contact occurs in Elementary and Secondary education. A lot of studies suggest that school programs are an effective way to prevent smoking (9-11). In order to improve these kinds of programs, authorities and health institutions have made some guidebooks (12) and developed some political norms for this purpose, including legislative aspects, guides and specific programs (13).

However, what's really going on in schools? Are this kind of contents given to students? Is there a relation between teacher's meetings and each one of them, individually? Schools have been slow to integrate in the curriculum non-smoking-specific activities. Administrators, headmasters and teachers may not be aware of this situation, may see other issues as having higher priority than tobacco prevention, or may not have adequate support for the teacher training and materials that would be required to implement new programs (14). In practice, a reduced number of teachers and schools participated in this type of educational contents.

A teaching professional is trained to educate students and they can be an effective social tool to transmit knowledge in order to make easy for students to get and consolidate healthy attitudes for their lives. Most of studies conducted in Spain (15-17), consider only some aspects like tobacco prevalence (or other kind of addictions like alcoholism) among students, but there has been little attention paid to teachers attitudes.

It is basic that teachers have a common purpose with the institution they work for, because efficient

contents can't be well elaborated if there's not a position among all school teaching professionals specially coherent. In the tobacco case, teachers's collaboration is important, having no differences between smoking and non smoking teachers. In our study 29.7% are smokers, smoking significantly more ($p < 0.001$) in Secondary education than Primary one; not differ significantly in smoking teachers percentage between publics and private schools. In spite of this, differences can't be observed ($p > 0.05$) in the educational contents of health education between schools where there were more smoking teachers and those ones in which the number of smoking teachers is lower.

It is not just important to know the number of teachers who smoke, but also if some of them smoke in front of students. In our study school headmasters think that 7.4% of teachers smoke in front of students, in the school area, smoking significantly more ($p < 0.05$) teachers of state schools than private ones. Also Secondary education teachers smoke in front of students significantly more ($p < 0.001$) than Primary ones and those where both Primary and Secondary education are given.

Because of teachers exemplary role this aspects become highly influential on students' attitude. In our study positive correlations are found between the number of smoking teachers and the number of students who have tasted tobacco ($p < 0.001$) and the number of usual smoking students. In the same way, positive correlation are found between the percentage of teachers who smoke in front of students, the number of students who have tasted tobacco ($p < 0.001$) and the number of regular smoking students.

Schools where legislation fulfilment is required, the percentage of teachers who smoke in front of students is significantly lower ($p < 0.001$), than in those others where this fulfilment is not required. In the same way, when anti-tobacco contents are given at school, the percentage of teachers who smoke in front of students is significantly lower ($p < 0.001$) than when they aren't. This could indicate that the fulfilment of anti-tobacco legislation and the incorporation of antitobacco contents in schools programs might also act for the smoking teachers reducing the possibilities to smoke in front of students.

In all those places where there is a higher percentage of smoking teachers and teachers who smoke in front of their students, school headmasters believe that health education should be performed not only by teachers but also with health professionals, with a positive correlation between both aspects of 0.04 ($p = 0.023$). Probably this could

be conditioned by the headmasters' need to have external support in order to correct, first of all, teachers' attitude and so, students'.

In other studies conducted in Spanish schools, most of teachers consider that the health education under the present circumstances does not produce enough results (18) and that it might be carried out integrated in inter-disciplinary programs. They point out an excess on the educational programs, not information, not enough didactic materials and a poor institutional support, like the most important reasons of this problem. On the other hand, 93.6% of headmasters consider that government should impel and support these educational contents.

Health education might be more effective when most of teaching professionals feel motivated, enough trained and know they are obliged to teach non-smoking contents. In addition, the legal atmosphere must make feel them supported by the educational authorities and public health professionals must cooperate to make didactic materials enough to work with (19).

The Final Report of The Advisory Committee on Tobacco Policy and Public Health (20) includes a few recommendations regarding the prevention of tobacco at schools. It is the responsibility of all doctors and mainly those more aware of this problem to contribute to its spreading and introduction at schools.

It's the school headmaster's responsibility to demand and watch over the fulfilment of antitobacco laws at school and favour the transmission of good attitudes and anti-tobacco contents from teachers to students, but in view of the described situation, health professionals and particularly Chest Physicians must be more involved in the prevention of tobacco consumption by children, as it's recommended by diverse scientific societies (21) (among the European Respiratory Society) offering our support to prevent the tobacco poisoning of children and young people.

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RESUMEN

Objetivos: conocer los hábitos de fumar de los maestros españoles, la educación contra el taba-

quismo y su influencia en los hábitos de fumar de los alumnos.

Métodos: se realizó un estudio transversal utilizando un cuestionario completado individual y anónimamente. Los cuestionarios fueron enviados a los directores de 8.000 colegios seleccionados aleatoriamente entre los 18.457 de España. Se recibieron contestaciones válidas de 3.050.

Resultados: el 29,7% de los maestros españoles fuman, siendo significativamente mayor el número de fumadores entre los maestros de educación secundaria ($p < 0,001$; IC de 95%) ($37,2 \pm 15,9\%$) que de educación primaria ($26,2 \pm 19,4\%$). El 7% fuma delante de los alumnos, siendo significativamente mayor el porcentaje de maestros que fuman delante de sus alumnos en los colegios públicos ($p < 0,05$) y de educación secundaria ($p < 0,001$). Se encontraron correlaciones positivas entre el porcentaje de maestros fumadores y el porcentaje de alumnos que hayan probado fumar ($p < 0,001$) o que sean fumadores habituales ($p < 0,001$), y también entre el porcentaje de maestros que fuman delante de los alumnos y el porcentaje de alumnos que hayan probado fumar ($p < 0,001$) o que sean fumadores ($p < 0,001$). En los centros escolares cuya normativa prohíbe fumar o que tienen un programa contra el tabaquismo, el porcentaje de maestros que fumen delante de los alumnos es significativamente menor.

Conclusiones: la actitud de los maestros influye a los alumnos, por lo que los directores deberían exigir el cumplimiento de la normativa que prohíbe fumar en los colegios e incluir información sanitaria contra el tabaquismo en los programas escolares.

Palabras clave: Directores de colegios. Colegios. Maestros. Tabaco. Juventud.

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