



## Why Choose Lent for a “Smoke Out Day?” Changing Smoking Behavior in Croatia

Marta Čivljak, Zlatko Ulovec<sup>1</sup>, Dragan Soldo<sup>2</sup>, Marija Posavec<sup>3</sup>, Stipe Orešković

*Department of Medical Sociology and Health Economics, Andrija Štampar School of Public Health, Zagreb University School of Medicine; <sup>1</sup>Department of Social Medicine and Epidemiology, Zagreb University School of Dental Medicine; and <sup>2</sup>Department of Family Medicine, Andrija Štampar School of Public Health, Zagreb University School of Medicine, <sup>3</sup>Zagreb Public Health Institute, Zagreb, Croatia*

<b>Aim</b>	To evaluate the impact on smokers' behavior of public health activity related to a religious event such as Lent in a predominantly Roman Catholic country.
<b>Methods</b>	“Smoke out day” was organized on the first day of Lent, a period of self-denial for Roman Catholics, combining cultural and religious significance for Croatian people. The day was covered by a massive media campaign. Smoking behavior and attitudes to smoking were examined using a cross-sectional anonymous survey, conducted among 2,143 TV viewers and radio listeners aged 15 and older in their households.
<b>Results</b>	More than 75% of the interviewed persons knew the exact date of the “Smoke out day.” Among smokers, 27% had given up smoking on that day and 16% declared they would not smoke during Lent. Significantly more women (34%) than men (23%) abstained from smoking on the “Smoke out day” and more women (24% vs 10.8%) had decided to abstain from smoking during Lent. The majority of abstainers were in the 30-44 age group. The lowest response to antismoking campaign was from smokers with university education.
<b>Conclusion</b>	Antismoking mass media activity can influence smokers' behavior especially if it is connected to cultural and religious aspects. Some groups are much more sensitive to this kind of activities and may be, with a good media campaign and developed network of professional help and support, supported to transform their “Smoke out day” into a lifelong abstinence.

Cigarette smoking represents the greatest epidemic of the 20th century. According to the estimates of the World Health Organization (WHO), 4.9 million people in the world die each year because of tobacco smoking and data indicates that this number will increase to 10 million by 2030 as a result of an explosion in the number of smokers in developing countries (1,2). In Croatia, it is estimated that 13,000 to 14,000 people die each year as a result of smoking (3).

The systematic fight against tobacco smoking was started by the WHO, which proposed a program against smoking in 1971 and passed the first resolution against tobacco smoking (4). During the 1990s, more than a hundred countries in the world prohibited advertising of tobacco and tobacco products (5). In 1987, members of the World Health Organization declared the 31st May as the “World No Smoking Day,” in order to attract global attention to the problem of the widespread

epidemic of tobacco addiction and resulting morbidity and mortality (6).

Although they are aware of the harm of smoking, many smokers continue to smoke and many young people begin to smoke (7). Comprehensive strategies are needed to prevent the initiation of tobacco use, to help users quit, and to reduce morbidity, mortality, and indirect social costs. Preventive measures are most important in convincing young people not to start smoking. Reducing the number of newly recruited smokers is the best long-term measure for reducing the number of smokers in the population (8,9). On the other hand, approximately 70% of smokers want to stop smoking, so that adequate help and support could also have an effect on this population, which is the aim of all health programs in the fight against smoking (10).

One of such programs is in the campaign "Say yes to no smoking," a joint project of Ministry of Health and Croatian National Television carried out in Croatia, at the beginning of 2002. Television spots adopted from Australian national campaign (11) were shown on the TV. The coordination of the campaign was taken over by the Andrija Štampar School of Public Health, extended the initial activity by organizing a free telephone help-line, interactive internet sites, courses for general practitioners and school medicine physicians, self-help groups for smokers previously included in a program for giving up smoking, mass media leaflets, books, radio and TV programs, and different public events (12-14).

As a part of the campaign "Say yes to no smoking," the first national "Smoke out day" was organized under the slogan "Croatia breathes." The organization was based on the experience of countries which have been organizing similar activities for many years and have thus succeeded in decreasing the number of smokers over a certain period of time (15,16).

In 2003, "Smoke out day" was organized on the first day of Lent. In this way the activity was connected with an event of cultural and religious significance for the majority of the Croatian people (88% of the population are Roman Catholic) and was also supported by other religious communities, governmental, and non-governmental associations (17).

The main objective of the "Smoke out day" was to reduce the prevalence of smoking in the general population. Various strategies were used (intense media campaign, round tables, stands, public events at main town squares, activities in nurseries, schools, and work places). The aim of these simultaneous activities was to reach the target population, ie smokers, in the phase of contemplation about quitting smoking regardless of age, gender, or duration of smoking (18).

It was expected that a greatest number of abstainers would be achieved if the campaign began on the first day of Lent.

The aim of the study was to evaluate the effect of the public health intervention "Smoke out day" on the behavior of smokers, depending on gender, age, and the education level.

### Methods

The study was performed on a sample of 2,143 listeners and viewers of radio and TV programs in the Republic of Croatia (1,026 men and 1,117 women) aged 15 years and older. The survey began the day after the "Smoke out day" and lasted for a week. The selected group of subjects consisted of 700 individual radio and TV subscribers and all members of their households who were 15 years or older. The members of the household who were currently in institutions or in other town were excluded from the study (eg soldiers, students, those who were in a hospital). The respondents were selected from the database of 1.124,711 individual radio and TV subscribers in the Republic of Croatia. The selection was geographically stratified, with a variable fraction according to the density of the population. Of 2,310 selected listeners and viewers, 2,143 (92.7%) responded and were interviewed. The questionnaire was completed in respondents' homes by specially trained field workers the Department of Market Research of the National Radio and Television. Answers were recorded in anonymous questionnaires, which were numbered with a code. The survey and the initial contact was not announced, so when respondents were not available at the first visit, attempts were made to contact them on four separate occasions.

Subjects who answered the question "Do you smoke?" with "Yes-occasionally" or "Yes-regularly" were classified in the group of smokers, and subjects who answered the same

question with "I have never smoked," "I smoked in the last year," or "I stopped smoking several years ago" were classified in the group of non-smokers. Demographic information obtained for each household member included age, gender, and educational level.

Data were analyzed by SPSS version 9.0 (SPSS, Inc., Chicago, IL, USA). Chi-square test was used to determine the differences between the groups of subjects. Differences were considered significant when  $P$ -values were less than 0.01.

## Results

Of the total 2,143 subjects, 903 declared themselves as smokers. Among the smokers, there were significantly more of men than women.

In the smokers group, there were 547 men, 454 (83%) of them smoking regularly and 93 (17%) occasionally. Out of 356 women smokers, 225 (63.2%) smoked regularly, and 131 (36.8%) occasionally. Among 679 regular smokers, there were significantly more men than women (66.9% vs 33.1%, respectively;  $P < 0.01$ ). Among 224 occasional smokers, there were more women than men (58.5% vs 41.5%, respectively).

Out of 1,240 subjects who declared to be non-smokers, 846 never smoked, 99 quit smoking in the preceding year, and 295 had stopped smoking several years earlier. Among the non-smokers, both those who had never smoked or quit smoking, there was significantly higher proportion of women than men ( $P < 0.01$ ), although

the ratio of men and women who quit smoking more than a year ago was about the same (50.5% and 49.5%, respectively).

The "Smoke out day" activity was equally noticed by men and women. To the question "Have you heard of the "Smoke out day" activity?" 872 (47.9%) men and 950 (52.2%) women responded affirmatively. There was no significant difference between men and women who knew the exact date chosen for the "Smoke out day". In the total analyzed sample 1,822 (85.0%) heard of the activity and 1,608 (75.0%) knew the exact date.

Question "Did you give up smoking cigarettes on the "Smoke out day"?" was directed to subjects who declared to be smokers. Among 903 smokers (occasional and regular), 245 (27%) had given up smoking on the "Smoke out day" ( $P < 0.01$ ). Out of the 547 male smokers, 123 (22.5%) abstained from smoking on that day, as well as 122 (34.3%) out of 356 women smokers. Significantly more women abstained from smoking on the "Smoke out day" (Table 1).

Analysis of abstainers according to age, showed that out of 245 smokers who had abstained on the "Smoke out day", most of the subjects were in the 30-44 age group (36.3%), followed by the subjects in the 15-29 age group (33.9%).

Among smokers, 141 (15%) subjects had primary school education, 579 (64.1%) secondary school education, 71 (7.9%) had university education, and 112 (12.4%) were students. The analysis of abstainers according to the level of education showed that the lowest response to "Smoke

**Table 1.** Current cigarette smoking status and abstainers on the "Smoke out day" according to sex

Parameter	No. (%) of abstainers			Statistics
	total	men	women	
Current cigarette smoking status:				$\chi^2_1=100.850$ $P < 0.001$
yes	903 (42.1)	547 (53.3)	356 (31.9)	
no	1,240 (57.9)	479 (46.7)	761 (68.1)	
total	2,143 (100)	1,026 (100)	1,117 (100)	
Smokers:*				$\chi^2_1=45.306$ $P < 0.001$
regularly	679 (75.1)	454 (82.9)	225 (63.2)	
occasionally	224 (24.9)	93 (17.1)	131 (36.8)	
total	903 (100)	547 (100)	356 (100)	
Non-smokers:†				$\chi^2_2=25.669$ $P < 0.001$
had never smoked	846 (68.2)	288 (60.1)	558 (73.3)	
had quit smoking in preceding year	99 (8.0)	42 (8.7)	57 (7.5)	
had quit smoking several years earlier	295 (23.8)	149 (31.2)	146 (19.2)	
total	1,240 (100)	479 (100)	761 (100)	
Abstained from smoking:‡				$\chi^2_1=15.145$ $P < 0.001$
yes	245 (27.0)	123 (22.5)	122 (34.3)	
no	658 (63.0)	424 (77.5)	234 (65.7)	
total	903 (100)	547 (100)	356 (100)	

\*Regular smokers - individuals who smoked every day, occasional smokers - individuals who smoked only some days.

†Non-smokers - individuals who had not smoked 100 cigarettes in their lifetime and those who smoked in the past but quit smoking prior to the date of the interview.

‡ Answer to the question: Did you give up cigarettes on the "Smoke out day"? Question for smokers only.

**Table 2.** Abstainers on the "Smoke out day" according to the age group and level of education

Parameter	No. (%) of			Statistics
	subjects	smokers	abstained from smoking	
Age group:				$\chi^2_6=57.569$ $P<0.001$
15-29	631 (29.4)	279 (30.8)	83 (33.9)	
30-44	540 (25.2)	273 (30.2)	89 (36.3)	
45-59	570 (26.6)	259 (28.8)	52 (21.2)	
>60	402 (18.8)	92 (10.2)	21 (8.6)	
Education:				$\chi^2_6=42.657$ $P<0.001$
primary school	364 (17.0)	141 (15.6)	50 (20.4)	
secondary school	1,180 (55.0)	579 (64.1)	145 (59.1)	
students	274 (12.8)	71 (7.9)	9 (3.7)	
university	325 (15.2)	112 (12.4)	41 (16.8)	
total	2,143 (100)	903 (100)	245 (100)	

out day" was among smokers with university education (Table 2).

On the "Smoke out day," 144 out of 903 smokers (16%) announced that they had decided to abstain from smoking during Lent. Significantly more women (85 out of 356) than men (59 out of 547) seriously considered quitting smoking during Lent ( $P<0.01$ ).

### Discussion

This study is the first attempt to measure the impact of a one-day antismoking activity followed by a well structured media campaign and combined with religious event such as the first day of Lent. This study showed that more women abstained from smoking than men during "Smoke out day" activity, as well as more subjects aged 15-44 than older subjects. The fact that 85% of the subjects were aware of the "Smoke out day" activity indicates that it was well organized and covered by the media. According to the results of the study, almost half of our subjects declared themselves as smokers, with significantly more smokers among men than women, which is similar to other populations (19,20). Around a quarter of smokers did not smoke a single cigarette on the "Smoke out day." Thus, every fourth smoker succeeded in abstaining from smoking for 24 hours. Also, significantly more women declared that they would abstain from smoking during the whole 40-day period. The smokers with university education had the lowest response to the "Smoke out day" activity, and only a small number abstained from smoking. In the future, efforts should be made to make activities and messages more attractive to different subgroups of smokers and evoke a better response.

We searched Pub Med database using key words smoking, smoking cessation, health promotion, and religion. We found many studies

on different public antismoking interventions but none of them was comparable to ours. Investigations carried out in Australia, the USA, and Canada confirmed that education and public health interventions which show the consequences of smoking, particularly when supported by the media can contribute to changed attitudes and behavior of individuals and groups (21-26). However, although information and education increase the knowledge of the individual, such activities are insufficiently effective if they are not combined with activities which can create a supportive environment for those who want to stop smoking (27). But none of these studies showed what the best moment to organize a public health activity such as "Smoke out day" was and whether there was a difference in results of such activity regarding the time when it was organized. This is why we do not know what the true impact of choosing the first day of Lent for a "Smoke out day" were and if the results of the study would be different if this activity was organized on any other day of the year. Since 16% of our subjects announced that they had decided to abstain from smoking during Lent, a follow-up study is needed to ascertain the success of such public health activity in achieving the basic objective of the national campaign "Say yes to no smoking," ie a reduction in the prevalence of smoking in the general population.

Because Lent is considered to be a period of self-denial among Catholics, public health activity at that time might succeed in persuading many smokers to quit smoking. In this way public health activity, connected with an event of cultural significance for the majority of Croatian people, and supported by other religious communities, would become recognizable and traditional. It is possible that many smokers who joined the "Smoke out day" activity began lifelong abstinence

from cigarette smoking on that very day, which is the main objective of such health programs.

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#### Correspondence to:

Marta Čivljak

Department of Medical Sociology and Health Economics

Andrija Štampar School of Public Health

Zagreb University School of Medicine

Rockefellerova 4

10000 Zagreb, Croatia

[mcivljak@snz.hr](mailto:mcivljak@snz.hr)