

Evaluation of a Social Marketing Campaign to Support Mexico City's Comprehensive Smoke-Free Law

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Smoke-free policies protect nonsmokers and workers from the harmful effects of secondhand smoke,^{1,2} contribute to the denormalization of smoking,^{3–5} and decrease consumption.⁶ Mass media campaigns may contribute to the success of smoke-free policies; however, evaluation of their impact is rare, has involved weak study designs, and mainly exists outside of the peer-reviewed scientific literature.⁷ Smoke-free workplaces and public places, and accompanying media campaigns, are critical components of the World Health Organization's Framework Convention on Tobacco Control, which promotes evidence-based interventions to combat the global tobacco epidemic.⁸ To help provide such evidence, the current study involved a longitudinal evaluation of a social marketing campaign to support a smoke-free law in Mexico City.

Media campaigns that focus on the health consequences of secondhand smoke exposure are critical to comprehensive tobacco control programs.⁹ Most campaigns of this type aim to increase not only awareness of the dangers of secondhand smoke but also support for smoke-free laws before their passage. For example, the influential California Tobacco Control Program emphasized the dramatic consequences of secondhand smoke exposure, particularly its impact on children, as a means of catalyzing local jurisdictions to implement smoke-free policies.¹⁰ The California program has reduced secondhand smoke exposure, increased the social unacceptability of smoking,¹⁰ reduced tobacco consumption,^{6,11} and produced health gains.¹² However, the comprehensive nature of the California Tobacco Control Program¹³ and the use of multiple campaign messages, including messages on manipulation by the tobacco industry,¹⁰ inhibits evaluation of the particular impact of secondhand smoke campaign messages. A review of the unpublished literature on secondhand smoke campaigns internationally indicates other design problems with how this type of campaign has been evaluated in other settings as well.⁷

Objectives. We aimed to assess the level of awareness and impact of a social marketing campaign to promote Mexico City's 2008 comprehensive smoke-free law.

Methods. Four months after the smoke-free law was implemented but before the campaign launch, we collected data from a population-based, random sample of 961 inhabitants of Mexico City. We analyzed data from 786 respondents who completed follow-up at the end of the campaign to determine campaign exposure and the association between campaign exposure and changes in campaign-targeted knowledge and attitudes.

Results. Recall of any of the 5 campaign materials was 69%, with a uniform distribution of exposure to 1, 2, and 3 or more campaign materials (25%, 25%, and 19%, respectively). Exposure to a greater number of campaign materials was associated in a monotonic relation with campaign-targeted knowledge of ammonia and arsenic in cigarette smoke. In models assessing support for, perceived benefits of, and perceived right to smoke-free places, campaign exposure accounted for a positive change in half of the indicators within each of these domains.

Conclusions. Social marketing campaigns can reinforce knowledge and attitudes that favor smoke-free laws, thereby helping to establish smoke-free norms. (*Am J Public Health.* 2011;101:328–335. doi:10.2105/AJPH.2009.189704)

A second campaign genre aims to promote support for and compliance with smoke-free laws once they have been passed or implemented.^{14–16} Before a law's implementation, some campaigns have informed people of the rationales behind and timing of the upcoming law. After the law's implementation, positively framed media campaigns often remind people of the law's benefits or thank smokers for helping with its successful implementation. Widespread public support for and compliance with smoke-free laws has been found in jurisdictions where such media campaigns have been aired^{15–17}; nevertheless, these studies have not assessed campaign impact above and beyond the impact of the law itself.

To inform the evidence base around the implementation of successful smoke-free interventions, as well as to increase understanding of media campaigns that address social norms in general, we evaluated a media campaign to support smoke-free legislation in Mexico City.

In February 2008, Mexico City passed a smoke-free workplace law that prohibited smoking in all enclosed public places and workplaces, including public transportation, restaurants, and bars.^{18,19} One month before the law entered into force on April 3, 2008, the Mexico City Ministry of Health and civil society organizations disseminated pamphlets and radio spots on the health consequences of secondhand smoke exposure and on the timing of the upcoming law. This campaign lasted for 2 months. Media coverage of the law was extensive, with issues framed similarly to how they are framed in high-income countries: the dangers of secondhand smoke exposure versus the greater risks of smog and the law's roots in puritanical US culture; the government's obligation to protect the health of nonsmokers and workers versus discrimination against smokers and the slippery slope of regulating behavior; the neutral or positive economic benefits of the law versus certain economic losses (JF Thrasher, SE

Llaguno-Aguilar, and AC Dorantes-Alonso, unpublished observations, November, 2010).^{3,18,20} Nevertheless, most print media coverage was either positive or neutral, with a smaller percentage of overtly negative coverage (JF Thrasher, SE Llaguno-Aguilar, and AC Dorantes-Alonso, unpublished observations, November, 2010).²⁰

On the eve before the law was implemented, approximately 78% of Mexico City adults supported prohibiting smoking across all enclosed workplaces and public places.²¹ Support and attitudes in favor of the law increased another 9% to 13% after the law was implemented. Much of this change happened during the postimplementation period, and it was accompanied by increases in compliance with the law.¹⁴ The social marketing campaign aired during the postimplementation period may have helped to account for these changes. As with other public health campaign evaluations,²² in the current study, we used data from a representative cohort of Mexico City adults to determine (1) whether the campaign achieved meaningful levels of exposure and (2) whether people most heavily exposed to the campaign were more likely than were those with lower exposure to change campaign-targeted attitudes and beliefs in favor of the smoke-free law.

METHODS

Campaign development followed social marketing campaign development practices,^{23,24} including 3 rounds of focus group pretesting, with the objective of producing campaign materials that increased (1) knowledge of toxic secondhand smoke constituents, (2) support for and compliance with the smoke-free legislation, and (3) perceptions of the positive outcomes associated with smoke-free environments.²⁵ The materials referred to cigarette smoke as being toxic, specifying the toxic components of ammonia and arsenic, and campaign messages underscored the right to breathe smoke-free air and the enjoyment and health benefits of doing so. Visual executions involved people enjoying a gust of fresh air that, surprisingly, they encounter inside enclosed places, not outside. The concept was reinforced with the phrase *Disfrutemos del aire fresco en lugares cerrados sin humo de tabaco* (Let's enjoy fresh air in enclosed places, without tobacco smoke). The slogan *Porque todos respiramos lo*

mismo (Because we all breathe the same air) provided the closing for all materials. Final materials included a television spot (in a restaurant), 2 print or billboard ads (1 inside a restaurant and 1 in a bar), and 2 radio ads (1 inside a restaurant with children coughing and 1 in a bar where people talk about toxic secondhand smoke). The campaign aired from early September 2008 until mid-December 2008.

We collected precampaign data in August 2008, 4 months after the smoke-free law was implemented and 1 month before the media campaign. We used a multistage sampling procedure to select a representative sample of adults (for more information, see Thrasher et al.¹⁴). The household response rate was 62.2%, with a cooperation rate of 75.5% among identified and eligible adults.²⁶ Over the final month of the campaign (November 16, 2008, to December 15, 2008), 82% of the participants (786 of 961) from the first survey were resurveyed.

Measurements

In the baseline and follow-up surveys, the participants indicated their last exposure to any campaign about secondhand smoke or smoke-free places. The responses were dichotomized to reflect exposure in the previous month through the 3 media outlets (i.e., television, radio, and print billboards or newspapers) through which the campaign materials were disseminated. Exposure to each of the *Porque todos respiramos lo mismo* (PTRM) materials was assessed at follow-up by use of validated aided recall methods.²⁷ For example, a still image from the television ad and from each print ad was presented without accompanying text, and the participants were asked if they had seen each ad in the previous 3 months. The assessment of exposure to each PTRM radio ad involved a brief description of each ad. We created a 4-level campaign exposure index that ranged from no exposure up to exposure to 3 or more PTRM materials. We also created dummy variables for exposure to PTRM materials through each channel (i.e., television, radio, and print), with no exposure through that channel as the reference group. To help to control for self-report bias,²⁷ we also asked the participants if they had seen an image from a smoke-free campaign that was not aired. As an indicator of impact, the participants who reported exposure to any

PTRM ad were asked if they had spoken to anyone about that ad.

Knowledge of cigarette smoke components was assessed only at follow-up. The respondents indicated if cigarette smoke contained arsenic, ammonia, chlorine, or adrenaline, with response options dichotomized to indicate "yes" versus "no" and "don't know." The first 2 chemicals were included in campaign materials, whereas the last 2 were not.

All other campaign-related attitudinal measures were assessed at both baseline and follow-up. Support for smoke-free venues was assessed by asking the participants how much they agreed with prohibiting smoking in different venues (i.e., restaurants and cafés; bars, cantinas, and discotheques; workplaces; hotels; and in every enclosed workplace and public place). Assessment of perceived health benefits of smoke-free places focused separately on family, other people like the participants, restaurant and bar customers, and restaurant and bar workers. Perceived rights referred separately to customers, workers, smokers, and people who do not want to breathe cigarette smoke. Response options for these attitudinal questions involved a 4-point Likert scale indicating strength of agreement. Original responses were maintained for primary analyses, but responses were also dichotomized to reflect agreement or not.

The control variables assessed at baseline included age, gender, income, education, smoking status (i.e., smoked in the previous month), whether smoking was prohibited inside the respondent's home, and potential exposure to the law (i.e., worked in enclosed areas or in the previous month visited restaurants or cafés, *fondas* or informal eateries, or bars, cantinas, or discotheques).

Analysis

Data were analyzed by using Stata, version 11 (StataCorp LP, College Station, TX). Attrition analyses involved using unweighted data to conduct *t*-tests and Pearson χ^2 tests. All other analyses were adjusted for the sampling design and sampling weights, which weighted the sample to be representative of the income and sex distribution of Mexico City inhabitants. We used logistic regression when examining dichotomous outcomes and ordinal regression for polytomous outcomes. To assess

longitudinal changes due to campaign exposure, we estimated ordinal regression models by regressing the indicator at follow-up on the exposure index while controlling for precampaign levels of that same indicator, self-reported exposure to bogus campaign material, and sociodemographic variables associated with campaign exposure.

RESULTS

The sample characteristics of the participants who were ($n=786$) and were not ($n=175$) successfully followed are shown in Table 1. Those who were not successfully followed were more likely than those who were followed to be younger, have higher educational achievement, have higher household income, have smoked in the previous month, and work indoors.

Campaign Exposure Assessment and Validation

Recall of any of the 5 PTRM campaign materials was 69%. Recall was highest for the PTRM radio ads, particularly for the spot of a child coughing in a restaurant (52%). Approximately 20% of the respondents recalled each of the print ads and the television ad. Only 7% reported exposure to the ad that was not actually aired. When the participants were asked if they had spoken with someone about any PTRM material to which they reported exposure, affirmative responses ranged from 25% for people who saw the bar print ad to approximately 45% of those who heard each of the radio spots.

To assess the construct validity of the campaign exposure assessment, we examined the distribution of exposure to PTRM materials by self-reported exposure in the previous 30 days

to any secondhand smoke campaign through the corresponding channel (Table 2). Separate logistic regression models were estimated by regressing PTRM exposure on the corresponding exposure to any secondhand smoke campaigns, when assessed at baseline. The results indicated no statistically significant associations, which suggested that the PTRM exposure measures had discriminant validity. In other words, the respondents who reported exposure to PTRM campaign materials did not appear to be people who generally report exposure to campaign materials in the absence of actual exposure. We did find statistically significant associations, however, when we regressed self-reported exposure to PTRM materials on exposure to any secondhand smoke campaign from corresponding channels when assessed at follow-up. This latter assessment provided evidence of convergent validity for the PTRM exposure measure. Furthermore, from the precampaign, baseline assessment to follow-up, self-reported exposure to any secondhand smoke campaign increased for each specific channel through which the PTRM campaign was aired (Table 2).

The combined index of PTRM campaign exposure resulted in 31% of participants classified as having no exposure to any campaign material and approximately 25%, 25%, and 19% exposed to 1, 2, and 3 or more materials, respectively. In the bivariate ordinal regression, the exposure index had no statistically significant association with any baseline sociodemographic characteristics, smoking status, or indicators of potential exposure to smoke-free policies at home, at work, or in public venues. However, a marginal, nonstatistically significant association between exposure and higher educational status ($B=0.201$; $P=.051$) led to the inclusion of education in the multivariate analyses of exposure impact.

Primary Campaign Outcomes

Knowledge of arsenic and ammonia in cigarette smoke, mentioned in the PTRM materials, was assessed only after the campaign. In separate logistic models regressing knowledge of each chemical on the PTRM exposure index, the association was statistically significant in both models (ammonia, $P\leq .001$; arsenic, $P\leq .001$). Crude and multivariate adjusted odds of

TABLE 1—Characteristics of the Analytic Sample of Mexico City Adults, 2008

Characteristic	Follow-Up ($n=786$)	No Follow-Up ($n=175$)
Age,*** mean, y	45.4	41.7
Female gender, %	66	60
Education,* %		
Elementary or secondary	26	23
Secondary	20	15
Technical school ^a	11	7
High school	26	32
University or more	17	23
Monthly household income, Mexican pesos,* %		
0-1500	11	6
1501-3000	26	25
3001-5000	33	28
5001-8000	18	24
≥ 8001	12	17
Current smoker,*** %	22	31
Prohibiting smoking in all indoor areas, %	60	52
Exposure to sites that the smoke-free law covers, %		
Work indoors***	26	41
Went to a restaurant or café in the past mo	44	42
Went to an informal eatery (i.e., <i>fondas</i>) in the past mo	26	27
Went to bars or discothèque in the past mo	15	18

Note. Participants were surveyed in August 2008, before the campaign, and from November 16 through December 15, 2008, at the end of the campaign.

* $P<.05$; ** $P<.01$; *** $P<.001$, before versus after the law.

^aTechnical school is a vocational or trade school that is usually an alternative to high school.

TABLE 2—Percentage of Self-Reported Exposure to Secondhand Smoke Campaigns in General and to *Porque Todos Respiramos lo Mismo* (PTRM), by Channel and Overall Exposure: Mexico City, 2008

Channel and Campaign Exposure	PTRM Exposure		Total, %	Odds of Exposure to PTRM, OR (95% CI)
	No Exposure, %	Exposure, %		
TV exposure to any secondhand smoke campaign				
Baseline, no exposure	62.7	14.2	76.9	
Baseline, exposure	17.8	5.3	23.1	1.31 (0.64, 2.66)
Follow-up, no exposure	53.8	9.3	63.1	
Follow-up, exposure	26.7	10.2	36.9	2.22* (1.21, 4.07)
Total exposure to PTRM TV ad	80.5	19.5	100.0	
Radio exposure to any secondhand smoke campaign				
Baseline, no exposure	35.7	46.0	81.8	
Baseline, exposure	6.7	11.5	18.2	1.33 (0.67, 2.65)
Follow-up, no exposure	36.7	30.2	66.9	
Follow-up, exposure	5.7	27.4	33.1	5.82*** (3.17, 10.68)
Total exposure to either PTRM radio ad	42.4	57.6	100.0	
Newspaper or billboard exposure to any secondhand smoke campaign				
Baseline, no exposure	47.5	23.6	71.1	
Baseline, exposure	19.5	9.5	28.9	0.98 (0.53, 1.81)
Follow-up, no exposure	42.5	14.9	57.4	
Follow-up, exposure	24.4	18.2	42.6	2.12** (1.29, 3.50)
Total exposure to either PTRM print ad	67.0	33.0	100.0	
Exposure to any secondhand smoke campaign				
Baseline, no exposure	22.2	46.7	68.8	
Baseline, exposure	9.0	22.2	31.2	1.18 (0.68, 2.04)
Follow-up, no exposure	22.3	26.7	49.0	
Follow-up, exposure	8.9	42.2	51.0	3.96*** (2.35, 6.67)
Total exposure to any PTRM material	31.1	68.9	100.0	

Note. CI = confidence interval; OR = odds ratio. The PTRM (“because we all breathe the same air”) campaign referred to toxic cigarette smoke components and underscored the right to breathe smoke-free air and enjoy the health benefits of doing so. Visual executions involved people enjoying a gust of fresh air that they surprisingly encounter inside enclosed places, not outside. This concept was reinforced by the phrase *Disfrutemos del aire fresco en lugares cerrados sin humo de tabaco* (“Let’s enjoy fresh air in enclosed places, without tobacco smoke”). For channels with PTRM in more than one specific material (i.e., radio, print), self-report of exposure to either material was analyzed. Similarly, self-report of exposure to any secondhand smoke campaigns through either billboards or newspapers was collapsed and treated as a single variable, because PTRM print materials were disseminated through both channels.

* $P < .05$; ** $P < .01$; *** $P < .001$.

reporting knowledge of ammonia and arsenic had statistically significant associations with the 2 highest categories of exposure when compared with no exposure, with a monotonic, dose-response effect across the levels of exposure (Table 3). In logistic models where the PTRM exposure index predicted reported bogus knowledge of tobacco smoke chemicals that the PTRM campaign did not mention, neither model produced statistically significant results (adrenaline, $P = .11$; chlorine, $P = .17$; Table 3).

The percentage of agreement for attitudinal indicators of campaign impact by level of PTRM exposure is shown in Table 4. The results generally indicated the expected changes associated with exposure, with some indication of no change or backsliding among unexposed participants. To assess the statistical significance of the association between PTRM exposure and changes in these indicators over time, 2 sets of ordinal regression models were estimated to account for the

entire range of response options for these attitudinal indicators. The first set of models regressed the indicator of interest at follow-up on the exposure index, with adjustment for baseline levels of the indicator of interest (Table 4). The second set of models additionally adjusted for self-reported exposure to bogus campaign material and participant educational attainment. In both sets of models, the PTRM exposure index had a statistically significant, positive association with greater support for prohibiting smoking in bars, cantinas, and discotheques, as well as in hotels, but not in other venues. When we examined the perceived health benefits of the law, the targeted beliefs that smoke-free laws improve the health of “your family” and “people like you” had a statistically significant, positive association with PTRM exposure in both sets of models. In the domain of perceived rights, both sets of models indicated that higher exposure to the campaign was associated with stronger perception of the rights of workers to work in smoke-free environments, as well as with greater disagreement that people who do not want to breathe tobacco smoke should go somewhere else.

DISCUSSION

These results provide evidence that the PTRM campaign successfully promoted the comprehensive smoke-free law in Mexico City. Approximately 69% of Mexico City adults reported campaign exposure. If the percentage of the population who self-reported exposure to the bogus ad (i.e., 7%) represented the likelihood of reporting exposure when it did not occur, overall campaign awareness can be adjusted downward to 62%. Meta-analyses of health communication campaigns describe high-exposure campaigns as those where exposure to any campaign material reaches above 55%; such campaigns, on average, have been shown to achieve meaningful changes in attitudes and behavior.^{28,29} The adjusted campaign awareness level places the PTRM campaign among such high-exposure campaigns; hence, the results indicating campaign impact are consistent with the literature in this area.

The present study found that the PTRM positively influenced campaign-targeted

TABLE 3—Association Between Campaign Exposure and Campaign-Targeted Knowledge About Cigarette Smoke Constituents: Mexico City, 2008

Exposure	Campaign-Targeted Knowledge: Ammonia			Campaign-Targeted Knowledge: Arsenic			Bogus Knowledge: Adrenaline		Bogus Knowledge: Chlorine	
	% (SE)	OR (95% CI)	AOR ^a (95% CI)	% (SE)	OR	AOR ^a	% (SE)	OR (95% CI)	% (SE)	OR (95% CI)
0	22 (5)	1.00	1.00	27 (5)	1.00	1.00	17 (4)	1.00	12 (4)	1.00
1	28 (8)	1.40 (0.75, 2.72)	1.28 (1.65, 2.54)	32 (9)	1.27 (0.64, 2.54)	1.16 (0.61, 2.22)	21 (5)	1.32 (0.60, 2.92)	15 (4)	1.33 (0.63, 2.79)
2	42 (8)	2.60** (1.38, 4.87)	2.81** (1.35, 5.83)	41 (7)	1.85 (0.98, 3.50)	1.92 (0.87, 4.23)	22 (5)	1.43 (0.65, 3.13)	16 (4)	1.51 (0.64, 1.59)
3	53 (7)	4.17*** (2.03, 8.54)	4.56*** (2.28, 9.12)	59 (7)	3.84*** (1.78, 8.26)	4.76*** (1.91, 11.85)	27 (5)	1.80 (0.90, 3.61)	20 (5)	1.90 (0.79, 4.61)

Note. AOR = adjusted odds ratio; CI = confidence interval; OR = odds ratio.

^aAdjusted for self-reported exposure to bogus material, agreement with bogus knowledge, and educational achievement.

* $P < .05$; ** $P < .01$; *** $P < .001$.

knowledge and attitudes that presumably support compliance with smoke-free laws, which suggests that population-level changes in these variables¹⁴ were at least partly a result of the campaign. The relation between PTRM exposure and knowledge of particular toxic secondhand smoke constituents was striking, and increased with campaign exposure in a dose-response relation. Compared with those with no exposure to the PTRM, more than twice as many people with the highest exposure knew of ammonia (22% and 53%, respectively) and arsenic (27% and 59%, respectively) as secondhand smoke constituents. The lack of data on knowledge about secondhand smoke at baseline disallows assessment of individual changes in these indicators over time; however, evidence in favor of campaign effects comes from the lack of association between PTRM exposure and bogus knowledge that was not included in the campaign materials. The presentation of new information concerning the chemical constituents of tobacco has tested well in other formative research in Mexico.³⁰ Qualitative information about the chemical constituents of tobacco and tobacco smoke (i.e., without quantitative specification of levels) will appear in the first round of pictorial warning labels on Mexican cigarette packs, which were rolled out in September 2010.³¹ Similar message content has tested well in US populations including Latinos¹⁰ and may be useful in campaigns and on warning labels to help countries build consumer knowledge that contributes to the denormalization of tobacco products and of the tobacco industry.³²

About half of the other key indicators of attitudes that favor smoke-free laws were positively associated with PTRM campaign exposure. We noted that the campaign increased support for prohibiting smoking in bars,

whereas support among unexposed participants appeared to decrease. As in other countries,^{15,16,33,34} in Mexico, support for smoke-free bars is lower than for other venues.^{14,16,35} Resistance against smoke-free bars appears hardest to win over, although it has receded in places with secondhand smoke media campaigns.^{33,34,36} Indeed, the possible backsliding of support that we found for people unexposed to the campaign suggests that media campaigns may solidify support and ensure that resistance to smoke-free laws does not grow. Such media campaigns may be particularly critical where tobacco industry public relations efforts actively promote resistance to smoke-free laws.^{37,38}

Other important study results include the campaign's impact on beliefs about the health benefits of the smoke-free law for one's family and other similar people. These referent groups are central to identity concerns and may be particularly important in collectivist and family-oriented cultural groups such as Latinos.³⁹ Indeed, the campaign material for which greatest recall was obtained was a radio spot that included a focus on health impacts among children, thereby supporting messaging strategies that focus on how secondhand smoke exposure hurts children.¹⁰ This messaging strategy was central to the California Tobacco Control Program,¹³ which appears to have influenced Latino populations there,⁴⁰ and should be considered for other campaigns that target Latino populations in the United States and elsewhere. Finally, campaign-related increases in the perceived rights of workers and others to breathe clean air suggest that the PTRM campaign approach can promote the social unacceptability of smoking, which may lead to downstream decreases in cigarette consumption.⁶

At the beginning of the campaign period, federal legislation prohibited tobacco advertising in outdoor areas, which may have increased the campaign's impact. The influence of media messages is heightened as competing channels and messages are reduced.^{38,41} Hence, messages such as those used in the PTRM, particularly positively framed messages that may more easily blend into the media environment, may be most effective when they do not compete for attention with pro-tobacco messages.

Limitations

We did not assess the frequency of exposure, which might have increased the sensitivity of our measure of campaign exposure. However, our assessment of associations between self-reported exposure to secondhand smoke campaigns in general provided good evidence for our measure's construct validity. Exposure was unassociated with other key variables except for a marginal association with higher education, which we expected given campaign targeting to groups of higher socioeconomic status; hence, we did not detect indications of biases resulting from selective attention to the PTRM campaign. The internal validity of our results is strengthened by our longitudinal design, which enabled assessment of within-individual changes, as well as by our finding that the results remained unchanged when we controlled for possible confounding variables.

The population-based analytic sample in this study increases the likelihood that our results are generalizable to the broader Mexico City population; however, unpredictable biases may have been introduced by nonparticipation and differential attrition. Our study conclusions could be strengthened through comparison of campaign-related indicators across jurisdictions

TABLE 4—Association Between Campaign Exposure and Changes in Campaign-Targeted Beliefs Among Mexico City Adults, 2008

Targeted Belief and Campaign Exposure Index ^a	Precampaign, % Agree (SE)	Postcampaign, % Agree (SE)	Ordinal Regression B (SE) ^b
Support for prohibiting smoking inside of restaurants and cafés			0.136 (0.093)
0	0.894 (0.027)	0.923 (0.020)	
1	0.731 (0.069)	0.942 (0.021)	
2	0.817 (0.068)	0.934 (0.021)	
≥3	0.896 (0.032)	0.913 (0.027)	
Support for prohibiting smoking inside of bars, cantinas, and discothèques			0.222* (0.094)
0	0.771 (0.038)	0.707 (0.047)	
1	0.575 (0.057)	0.687 (0.068)	
2	0.584 (0.072)	0.716 (0.048)	
≥3	0.657 (0.067)	0.727 (0.059)	
Support for prohibiting smoking inside of workplaces			0.162 (0.090)
0	0.939 (0.026)	0.945 (0.018)	
1	0.956 (0.019)	0.987 (0.007)	
2	0.950 (0.029)	0.988 (0.008)	
≥3	0.937 (0.027)	0.969 (0.018)	
Support for prohibiting smoking inside of hotels			0.244* (0.100)
0	0.818 (0.035)	0.739 (0.056)	
1	0.705 (0.062)	0.800 (0.048)	
2	0.666 (0.073)	0.865 (0.035)	
≥3	0.810 (0.046)	0.905 (0.027)	
Support for prohibiting smoking inside of all enclosed workplaces, including restaurants and bars			0.075 (0.103)
0	0.795 (0.055)	0.857 (0.039)	
1	0.809 (0.063)	0.861 (0.033)	
2	0.762 (0.060)	0.904 (0.026)	
≥3	0.809 (0.050)	0.907 (0.028)	
Smoke-free laws improve health of people like you			0.200* (0.086)
0	0.953 (0.020)	0.962 (0.013)	
1	0.972 (0.013)	0.974 (0.010)	
2	0.946 (0.021)	0.981 (0.010)	
≤3	0.919 (0.049)	0.976 (0.017)	
Smoke-free laws improve health of your family			0.185* (0.084)
0	0.966 (0.016)	0.961 (0.017)	
1	0.974 (0.013)	0.984 (0.008)	
2	0.939 (0.022)	0.993 (0.007)	
≥3	0.934 (0.047)	0.985 (0.015)	
Smoke-free laws improve health of employees			0.109 (0.116)
0	0.931 (0.026)	0.927 (0.018)	
1	0.975 (0.014)	0.970 (0.013)	
2	0.883 (0.034)	0.972 (0.015)	
≥3	0.889 (0.042)	0.948 (0.028)	
Smoke-free laws improve health of customers			0.127 (0.105)
0	0.971 (0.011)	0.921 (0.026)	
1	0.976 (0.014)	0.973 (0.012)	
2	0.891 (0.033)	0.944 (0.024)	
≥3	0.890 (0.043)	0.918 (0.049)	
Perceived rights of workers to work in smoke-free environments			0.226* (0.109)
0	0.965 (0.015)	0.958 (0.016)	

Continued

TABLE 4—Continued

1	0.965 (0.019)	0.990 (0.006)	
2	0.956 (0.016)	0.982 (0.010)	
≥3	0.977 (0.010)	0.998 (0.002)	
Perceived rights of customers to breathe smoke-free air in enclosed public places			0.122 (0.112)
0	0.969 (0.011)	0.979 (0.009)	
1	0.956 (0.023)	0.984 (0.010)	
2	0.952 (0.025)	0.972 (0.014)	
≥3	0.990 (0.008)	0.987 (0.012)	
Perceived rights of smokers to smoke inside enclosed public places			-0.024 (0.089)
0	0.366 (0.045)	0.338 (0.048)	
1	0.403 (0.069)	0.269 (0.057)	
2	0.444 (0.066)	0.360 (0.080)	
≥3	0.288 (0.062)	0.347 (0.059)	
Perceived rights of people bothered by smoke; they should leave if bothered			-0.270* (0.109)
0	0.303 (0.039)	0.449 (0.061)	
1	0.395 (0.070)	0.284 (0.045)	
2	0.333 (0.057)	0.354 (0.072)	
≥3	0.374 (0.057)	0.262 (0.049)	

^aCampaign exposure index indicates self-reported exposure to no, 1, 2, or 3 or more campaign materials.

^bResults shown are from ordinal regression models that regressed the postcampaign response on the exposure index, with control for precampaign response. Comparable estimates and *P* values were obtained in ordinal regression models additionally adjusted for self-reported exposure to bogus campaign material and education.

P* < .05; *P* < .01; ****P* < .001.

with similar smoke-free laws, with some jurisdictions unexposed to media campaigns of this type. Although Mexico City had a stronger smoke-free law than the federal law that covered the rest of Mexico, some evidence of this type is found in recently published longitudinal research among Mexican adult smokers over a year-long period, which included the campaign period.³⁵ Adult smokers in Mexico City were more likely than were those in other Mexican cities to report exposure to secondhand smoke media campaigns, to increase support for smoke-free laws, and to report lower secondhand smoke exposure in regulated venues. Although this provides additional evidence of the PTRM exposure and impact, other differences between Mexico City and comparison cities, including the stronger Mexico City law, may help to account for these effects.

Conclusions

To our knowledge, this is the first peer-reviewed study to assess changes in attitudes owing to a secondhand smoke or smoke-free mass media campaign. The campaign emphasized the benefits of smoke-free laws, particularly for family members, and reinforced the

normative nature of not smoking in restaurants and bars. The evaluation results supported the contention that jurisdictions with comprehensive smoke-free laws should conduct this type of mass media campaign, particularly when these laws are relatively novel to a region or population. A focus on the toxic components of secondhand smoke may be especially useful in providing a rationale for smoke-free laws, thus allowing for a clear understanding of why smoke-free laws are beneficial and thereby helping to establish new smoke-free norms. ■

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Contributors

J.F. Thrasher originated the study and prepared the article for publication. L. Huang and R. Pérez-Hernández conducted the analyses under the guidance of J.F. Thrasher and J. Niederdeppe, all of whom interpreted the results and reviewed the article. E. Arillo-Santillán and J. Alday helped to interpret results and reviewed drafts of the article.

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Human Participant Protection

This study was approved by the institutional review board of the National Institute of Public Health, Cuernavaca, Mexico.

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