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Awareness of pro-tobacco advertising and promotion and beliefs about tobacco use: Findings from the Tobacco Control Policy (TCP) India Pilot Survey

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Abstract Tobacco companies are utilizing similar strategies to advertise and promote their products in developing countries as they have used successfully for over 50 years in developed countries. The present study describes how adult smokers, smokeless tobacco users, and non-users of tobacco from the Tobacco Control Project (TCP) India Pilot Survey, conducted in 2006, responded to questions regarding their perceptions and observations of pro-tobacco advertising and promotion and beliefs about tobacco use. Analyses found that 74% ($n = 562$) of respondents reported seeing some form of pro-tobacco advertising in the last six months, with no differences observed between smokers (74%), smokeless tobacco users (74%),

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and nonsmokers (73%). More than half of respondents reported seeing pro-tobacco advertising on store windows or inside shops. Overall, this study found that a significant percentage of tobacco users and non-users in India report seeing some form of pro-tobacco advertising and promotion messages. Additional analyses found that smokers were more likely to perceive tobacco use as harmful to their health compared with smokeless tobacco users and non-users ($p < 0.01$). The findings from this study reiterate the need for stronger legislation and strict enforcement of bans on direct and indirect advertising and promotion of tobacco products in India.

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1. Introduction

According to a recent assessment of cancer mortality deaths in India, 42% of male and 18% of female cancer deaths were related to tobacco use, with twice as many deaths from oral cancers as lung cancers [1]. Although rural and urban area rates were similar, significant disparities were detected between the states and were two times higher in the least educated compared with the most educated adults. These findings are troubling as tobacco use rates in India are increasing at an alarming rate among all sub-populations in the country. India is home to over 1.1 billion people, with approximately 120 million smokers and nearly a million annual deaths due to tobacco-related disease [2–4]. A recent nationally-representative survey conducted in India (aka Million Death Study), designed to document the age-specific mortality rates and total deaths from specific cancers, estimated that 22% (119,700) of the 556,400 national cancer deaths in India in 2010 were related to tobacco use [1]. The Global Adult Tobacco Survey (GATS), conducted in India between October 2008 and March 2010, found that about one-third of adults (34.6%) used some form of tobacco, including half of men (48%) and nearly one in five women (20%) counted among the users [5]. It was estimated in the early 1990s that in India, among individuals aged 15 and above, about 630,000 deaths annually were attributable to tobacco [3]. However, studies have found that tobacco use in India is a problem of all ages. The 2006 Global Youth Tobacco Survey (GYTS) estimates that the overall prevalence of tobacco use among 13–15 year olds is approximately 14%, with a greater percentage of boys using tobacco compared with girls [6].

India signed the Framework Convention on Tobacco Control (FCTC) on 10 September 2003, and ratified the treaty on 5 February 2004. However, even before India ratified the FCTC, the Government enacted its own national tobacco control legislation: “The Cigarettes and Other Tobacco

Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply, and Distribution) Act, (COTPA) 2003” on 18 May 2003 [7]. Among its many provisions, this legislation included a total ban on the direct and indirect advertising of all tobacco products and a prohibition on sponsorship of sports and cultural events by tobacco companies. The rules for some provisions of this Act, including prohibition of advertisements and sponsorship of cigarettes and other tobacco products, came into force on 1 May 2004 [7,8].

The prohibition of direct and indirect advertising of all tobacco products is critical as tobacco companies are now utilizing similar methods to advertise and promote their products in developing countries as they have used successfully in developed countries for over 50 years [9]. Bansal et al. [10] found that tobacco companies marketing in India are implementing advertising campaigns targeted at men, women, and children in different socioeconomic groups. The authors also found that many of these strategies circumvent the COTPA 2003 advertising ban, including point of sale, indirect advertising to women, store front and bus stop advertisement that advertise the brand (absent of the mention of cigarettes), and product placement. They found that despite the passage of the regulation designed to limit and eliminate direct and indirect advertising, strategic brand and product placement effectively continued to market tobacco products to consumers.

Studies have found that, in India, exposure to visual mass media and cigarette advertising is highly correlated with increased tobacco consumption, particularly among adolescents and young adults [11,12]. A longitudinal study by Arora and colleagues found among urban adolescents in 32 schools in Delhi and Chennai that 87% of adolescents reported being exposed to tobacco advertisements and promotions, despite the COTPA 2003 ban. These findings are similar to those found by GYTS (2009), where 75% of respondents reported exposure to tobacco advertising through billboards

[6]. Arora et al. also found that high receptivity to tobacco advertising was a significant predictor of the future progression of tobacco use among boys [13]. Although this study involved youth and young adults, it is noteworthy because it was one of the first to evaluate the association between exposure and receptivity to advertising for all tobacco products, rather than for just cigarettes.

The main objective of this paper is to describe how adult smokers, smokeless tobacco users, and non-users of tobacco from the Tobacco Control Project (TCP) India Pilot Survey, conducted in two states (Maharashtra and Bihar) in 2006, responded to questions regarding their perceptions and observations of pro-tobacco advertising and promotion. The associations between tobacco habits (smoker, smokeless tobacco user, non-user of tobacco), demographic characteristics, reported exposure to pro-tobacco advertising and promotion, and beliefs about tobacco use, including perceived risk and addiction, were examined.

2. Materials and methods

2.1. Sample

The TCP India Pilot Survey is a cross-sectional survey conducted in 2006 in the states of Maharashtra and Bihar, as a lead-into the TCP India Project, a larger prospective cohort study which began in 2010. Study recruitment for the pilot survey was focused on urban and surrounding rural areas of the major cities of Mumbai and Patna, respectively. The TCP India Pilot Survey, as with all other surveys conducted by the International Tobacco Control Policy Evaluation Project (ITC Project), conducted in a total of 22 countries to date, was designed to evaluate and understand the psychosocial and behavioral effects of national-level tobacco control policies [14]. In India, the "ITC India Project" was renamed as the "Tobacco Control Policy (TCP) India Project" to avoid confusion with the "India Tobacco Company."

The target population for the pilot survey included approximately equal numbers of adult current smokers (i.e., someone who reported smoking cigarettes or bidis at least weekly, $n = 249$), current smokeless tobacco users (i.e., someone who reported only current use of any smokeless tobacco product, $n = 248$), and non-users of tobacco (i.e., never users; $n = 267$) aged 18 years and older. Dual users of tobacco (i.e., those who reported current use of both smoked and smokeless tobacco) were excluded from the study. The surveys were conducted by face-to-face

interviews in households through a survey involving a household enumeration process. In this enumeration, data on gender, age, and current tobacco use status were collected from the head of household for all members. A maximum of four respondents were interviewed from a household and priority was given to youth. Surveys were conducted in Hindi in Bihar and Marathi in Maharashtra. Actual survey time was an average of two hours per respondent (range 1.5–2.5 h); each respondent was given a small token at the end in appreciation of their time. Additional information on the research design and survey methods is reported in Raute et al. [15] and on the ITC Project Web site (www.itcproject.org). The study protocol and survey materials were approved by the Office of Research Ethics at the University of Waterloo, Canada, and the Institutional Review Board at the Healis-Sekhsaria Institute for Public Health, India.

2.2. Measures

The TCP India Pilot Survey included questions on a number of individual, environmental, and policy factors, standardized to the ITC Surveys conducted in other countries, but with minor modifications based on language and colloquial differences. Questions included demographics, tobacco use, policy-relevant domains (e.g., health warning labels, advertising/promotion, secondhand smoke restrictions), psychosocial factors (including knowledge, attitudes, and beliefs about different tobacco products), and intention to quit.

Participants were first asked the general ad awareness question: "In the last 6 months, how often have you noticed things that are designed to encourage smoking or which make you think about tobacco?" (Response options: never, once, once in a while, often, DK/cannot say). Next, they were asked the following individual questions about noticing tobacco advertising in specific locations: "In the last 6 months, have you noticed tobacco products being advertised in any of the following places?" (Response options: yes, no, DK/cannot say; places listed included on television, on radio, on posters, on billboards, in newspapers or magazines, in cinema halls, on shop/store windows or inside shops/stores where you buy tobacco, on or around street vendors, in the workplace, on public transportation vehicles or stations, in restaurants, cafeterias, or tea bars. Then participants were asked questions specific to the level of awareness of tobacco promotion in select locations: (1) "In the last 6 months, have you seen or heard about any sport or sporting

events that are sponsored by or connected with either tobacco brands or tobacco companies?" (Response options: yes, no, DK/cannot say); (2) "In the last 6 months, have you seen or heard about any music, theater, art, or fashion events that are sponsored by or connected with either tobacco brands or tobacco companies?" (Response options: yes, no, DK/cannot say); (3) "In the last 6 months, have you seen or heard about any religious events that are sponsored by or connected with either tobacco brands or tobacco companies?" (Response options: yes, no, DK/cannot say); (4) "In the last 6 months, have you noticed any of the following types of tobacco promotion?" (Response options: yes, no, DK/cannot say, offers listed included free sample of tobacco, special price offers for tobacco, free gifts or special discount offers on other products when buying tobacco, clothing or other items with a tobacco brand name or logo, competitions linked to tobacco); and (5) "Thinking about the entertainment media, like movies, TV programs, magazines, in the last 6 months, about how often, if at all, have you seen people smoking in the entertainment media?" (Response options: never, once in a while, often, DK/cannot say). Response options of 'often', 'once in a while', 'once', and 'yes' were coded as noticing any advertisement or promotion for tobacco (1); all other responses were coded as not noticing (0).

Participants were also asked questions regarding their beliefs and attitudes about tobacco use. Specifically, participants were asked: (1) "Do you think smokeless tobacco use is good for your health?" (Response options: good, neither good nor bad, not good, DK/cannot say); (2) "Do you think smoking is good for your health?" (Response options: good, neither good nor bad, not good, DK/cannot say); and (3) "How soon after waking do you usually smoke?" (Response options: <5 min, 6–30 min, 31–60 min, 61+ mins, not sure). Respondents were also asked, individually: "In the last month, how often, if at all, did you: Think about how much you enjoy smoking?; Think about the harm your smoking might be doing to you?; Seriously consider quitting smoking?; Think about the cost of smoking?" (Response options: never, sometimes, often, DK/cannot say). Finally, respondents were asked: "In the last month, have you butted out a cigarette or bidi before you finished it because you thought about the harm of smoking?" (Response options: yes, no, not sure).

2.3. Statistical analyses

Chi-square tests were used to examine differences in demographic characteristics (age, sex, income, education, current tobacco use status (smoker,

smokeless tobacco user, non-user of tobacco) and state and locale of residence (Bihar urban or rural, Maharashtra urban or rural). A summary index was created indicating the total number of places respondents reported noticing tobacco product advertising and promotion (i.e., level of awareness of tobacco advertising and promotion) in the last six months. The summary index consisted of the general ad awareness question, the tobacco advertising questions, and the tobacco promotion questions described in the Measures section. Linear regression was then used to test associations between current tobacco use habit (smoker, smokeless user, non-user of tobacco) and this level of awareness. The analyses were adjusted for the following variables (categorical): age in years (18–24, 25–39, 40–54, 55 and older); sex (male, female); education (standardized to low [illiterate or primary], moderate [middle or secondary], high [college or above]), household income level (low [<5000 INR per month], middle [5000–15,000 INR per month], high [>15,000 INR per month]), and state and locale of residence (Maharashtra urban or rural, Bihar urban or rural). Two-way Analysis of Variance was employed to evaluate differences in mean responses to the respondent's perception of overall health by tobacco use status and geographic region (state and urban vs. rural). All analyses were conducted using SPSS 21.

3. Results and discussion

3.1. Sample characteristics

Sample characteristics are presented in [Table 1](#). A higher percentage of respondents were recruited from the rural areas of each state compared with the urban areas, with equal distributions of smokers, smokeless tobacco users, and non-users of tobacco across the respondents. Two-thirds of the sample were male, and half of the sample was of low education. More than half of the sample was of low income as well. Statistically significant differences were observed when examining respondents from different regions surveyed (Bihar urban or rural, Maharashtra urban or rural). Notably, significant differences were detected with a greater percentage of smokeless tobacco users living in urban Maharashtra (38%), a slightly greater percentage of smokers living in rural Bihar (38%), and a greater percentage of non-users living in urban Bihar (52%) (Chi-square statistic $p < 0.01$). Additionally, differences were noted in age, education, and income of respondents between the different geographic regions.

Table 1 Sample characteristics from TCP India Pilot Study ($n = 763$).

	Maharashtra		Bihar		Total
	Urban	Rural	Urban	Rural	
	20% (152)	24% (185)	17% (130)	39% (296)	100% (763)
<i>Tobacco use status*</i>					
Smoker	30% (46)	37% (68)	18% (23)	38% (112)	33% (249)
Smokeless tobacco user	38% (57)	31% (57)	31% (40)	32% (94)	33% (248)
Non-user	32% (49)	32% (60)	52% (67)	30% (90)	35% (266)
<i>Age*</i>					
18–24	6% (9)	15% (27)	22% (29)	18% (52)	15% (117)
25–39	29% (44)	22% (40)	24% (31)	37% (110)	30% (225)
40–54	29% (44)	41% (76)	29% (38)	25% (73)	30% (231)
55 and older	36% (55)	23% (42)	25% (32)	21% (61)	25% (190)
<i>Sex</i>					
Male	66% (100)	63% (116)	61% (79)	55% (164)	60% (459)
Female	34% (52)	37% (69)	39% (51)	45% (132)	40% (304)
<i>Education*</i>					
Low	21% (32)	77% (143)	21% (27)	66% (195)	52% (397)
Moderate	61% (92)	20% (36)	43% (55)	24% (72)	34% (255)
High	18% (27)	3% (6)	36% (47)	10% (28)	14% (108)
<i>Income*</i>					
Low	41% (61)	91% (168)	38% (48)	77% (223)	67% (500)
Middle	52% (78)	9% (17)	52% (66)	21% (62)	30% (223)
High	7% (11)	0% (0)	10% (12)	2% (5)	4% (28)

* Statistically significant differences were observed between the groups, Chi-square statistic, $p < 0.001$.

3.2. Observations of pro-tobacco advertising and promotion

All respondents were asked questions about awareness of advertising and promotion of tobacco products for the past six months. The responses are presented in Table 2. Frequencies of noticing tobacco advertising and promotional materials differed between smokers, smokeless tobacco users, and non-users largely by the vendor or location; for example, smokeless tobacco users noticed tobacco ads on shop/store windows or inside shops where they buy tobacco (borderline statistical significance, Chi-square statistic p -value = 0.06), while non-users were significantly more likely to report noticing tobacco ads on posters (Chi-square statistic p -value = 0.003). Few people reported seeing or hearing about a sporting, music, theater, art, or religious event being sponsored by a tobacco company or connected to a tobacco brand. While few people also reported noticing specific types of tobacco promotions, including free samples, special offers, special discounts, or competitions linked to tobacco (<6%), while a slightly greater percentage reported noticing clothing or other items with tobacco brand names or logos

(9–14%). Linear regression analysis found that although tobacco use status, age, income, and locale were not significantly associated with the level of awareness of tobacco advertising (results not shown), females were less likely to report greater levels of awareness ($\beta = -0.126$, $p < 0.01$), while respondents with a higher education were more likely to report greater levels of awareness of tobacco advertising ($\beta = 0.234$, $p < 0.01$).

Results from this study found that over two-thirds (74%; $n = 562$) of respondents reported seeing any form of pro-tobacco advertising in the last six months, with no differences observed between smokers (74%), smokeless tobacco users (74%), and nonsmokers (73%). This finding demonstrates a need for greater enforcement and compliance with Section 5 of COTPA 2003, which prohibits advertising of tobacco products in both direct and indirect forms [7]. The analyses also found that more than half of the respondents (54%) reported seeing pro-tobacco advertising on store windows or inside of shops where they buy tobacco and one-third (32%) reported noticing displays on or around street vendors. This highlights an area that needs additional specific regulation for both cigarettes and other tobacco products.

Table 2 Reported observations of pro-tobacco advertising and promotion in India, *n* = 763.

Question	Smoker (<i>n</i> = 249) (%)	Smokeless tobacco user (<i>n</i> = 248) (%)	Non-user of tobacco (<i>n</i> = 266) (%)	Chi-square statistic <i>p</i> -value
In the last 6 months, how often have you noticed things that are designed to encourage smoking or which made you think about tobacco?				0.087
Never	58	60	68	
Once	12	11	10	
Once in a while	27	22	15	
Often	4	7	7	
In the last 6 months, have you noticed tobacco products being advertised in any of the following places:				
On television (Yes)	9	9	11	0.713
On radio (Yes)	2	4	4	0.335
On posters (Yes)	26	36	40	0.003
On billboards (Yes)	15	20	22	0.125
In newspapers or magazines (Yes)	6	6	11	0.086
In cinema halls (Yes)	7	7	10	0.419
On shop/store windows or inside shops where you buy tobacco (Yes)	55	59	49	0.061
On or around street vendors (Yes)	31	35	29	0.353
In the work place (Yes)	2	1	2	0.761
On public transportation or stations (Yes)	7	8	11	0.351
In restaurants, cafeterias, or tea bars (Yes)	10	13	16	0.154
In the last 6 months, have you seen or heard about any sporting event that is sponsored by a tobacco company or connected to a brand? (Yes)	2	0	2	0.385
In the last 6 months, have you seen or heard about any music, theater, art, or fashion event that is sponsored by a tobacco company or connected to a brand? (Yes)	2	0	1	0.415
In the last 6 months, have you seen or heard about any religious events that are sponsored by a tobacco company or connected to a brand? (Yes)	2	3	2	0.736
In the last 6 months, have you noticed any of the following types of tobacco promotion:				
Free sample of tobacco (Yes)	5	6	5	0.827
Special price offers for tobacco (Yes)	4	1	1	0.073
Free gifts or special discounts on other products when buying tobacco (Yes)	4	2	2	0.260
Clothing or other items with tobacco brand name or logo (Yes)	14	9	11	0.214
Competitions linked to tobacco (Yes)	2	1	0	0.125
Thinking about the entertainment media, like movies, TV programs, magazines. In the last 6 months, how often have you seen people smoking?				0.010

Table 2 (continued.)

Question	Smoker (<i>n</i> = 249) (%)	Smokeless tobacco user (<i>n</i> = 248) (%)	Non-user of tobacco (<i>n</i> = 266) (%)	Chi-square statistic <i>p</i> -value
Never	25	24	18	
Once in a while	48	37	43	
Often	26	39	39	
Noticed any advertisement or promotion for tobacco*				0.995
Yes	74	74	73	
No	27	26	27	

Bold entries indicate $p < 0.05$.

* 'Noticed any advertisement or promotion for tobacco' was recorded as 'yes' for anyone who said 'often', 'once in a while', 'once', and 'yes' to any of the listed questions; other response options were coded 'no'.

3.3. Perceptions of risk

The findings from this study, as presented in Table 3, show that in general smokers had a negative opinion of smoking and believed that smoking is bad for their health. However, most smokers and smokeless tobacco users in the sample believed they are in good health (96% smokers and 98% smokeless tobacco users reported 'good', 'very good', or 'excellent' when asked about their overall health) and over half did not perceive themselves as addicted to tobacco (p -value < 0.01). In addition, most tobacco users believe that the government should do more to control tobacco use and have a negative opinion about tobacco companies. Tobacco users in the sample were also split on their responses to statements such as: "You enjoy tobacco too much to give it up" and "If you had to do it over again, you would not have started using tobacco." Although the differences between smokers and smokeless tobacco users were not significant, the results suggest that although tobacco users know that smoking is not good for their health and is addictive, their objective beliefs about tobacco use may be rationalized by their visceral reactions to the products themselves.

When asked to rate their overall health with the question: "Now a question about your overall health. In general, how would you describe your health?" on a scale of 0 (poor) to 4 (excellent), all respondents in the survey rated their health highly (overall mean = 3.26). Stratified analyses (Table 4) showed that non-users, on average, had higher perceptions of their overall health (mean = 3.49), followed by smokeless tobacco users (mean = 3.24); smokers, on average, rated their overall health lower compared with these two groups (mean = 3.04).

When evaluating an association between perception of overall health and tobacco use status while also accounting for locale of respondent (i.e., urban or rural area of Maharashtra, urban or rural area of Bihar), the post hoc tests revealed a significant difference in perception of overall health between smokers, smokeless tobacco users, and non-users (Two-Factor ANOVA F -statistic 22.413, $p < 0.001$). However, the estimated marginal means and profile plots did not reveal an interaction between the two factors, suggesting that respondents in urban and rural areas of Maharashtra and Bihar do not have significantly different perceptions about their overall health (Two-Factor ANOVA F -statistic 0.970, $p = 0.444$). Additional data summarizing the responses to knowledge and belief items about specific tobacco products and their use among the TCP India Pilot Survey respondents have been reported in greater detail in Surani et al., Sansone et al. and Raute et al. [15–17].

4. Discussion

Overall, this study found that a significant percentage of tobacco users and non-users of tobacco in India report seeing pro-tobacco advertising and promotion messages, most frequently in the retail environment. In addition, respondents in this study more frequently reported that tobacco use, whether it is cigarette smoking or smokeless tobacco use, is not good for their health and is addictive. They expressed negative opinions about the tobacco industry and a need for the government to exert more control over tobacco. However, they were split on measures related to 'enjoyment of tobacco' (with 58% of smokers and 50% of smokeless tobacco users reporting enjoying tobacco too much to give it up) and only half of users expressing regret for their use. This indicates

Table 3 Perceptions of risk by tobacco use status, *n* = 763.

Question	<i>n</i>	Smoker (<i>n</i> = 249) (%)	Smokeless tobacco user (<i>n</i> = 248)	Non-user of tobacco (<i>n</i> = 266)	Chi-square statistic
Do you think smokeless tobacco use is good for your health?	755				0.000
Good		10	13%	2%	
Neither good nor bad		8	18%	5%	
Not good		82	69%	93%	
Do you think smoking is good for your health?	758				0.000
Good		15	8%	2%	
Neither good nor bad		6	9%	4%	
Not good		79	82%	94%	
Do you consider yourself addicted to [smoking/smokeless tobacco]?*	479				0.001
Not at all		16	28%	NA	
Somewhat		47	50%	NA	
Very		36	21%	NA	
Cigarettes are addictive	744				0.308
Agree		89	91%	92%	
Neither agree nor disagree		1	2%	2%	
Disagree		10	7%	5%	
Bidis are addictive	750				0.210
Agree		90	91%	93%	
Neither agree nor disagree		0	2%	2%	
Disagree		9.5	7%	5%	
Smokeless tobacco is addictive	746				0.308
Agree		90	88%	93%	
Neither agree nor disagree		2	3%	2%	
Disagree		8%	9%	5%	
Everybody has got to die of something, so why not enjoy yourself and use tobacco	719				0.000
Agree		25	23%	5%	
Neither agree nor disagree		2	3%	4%	
Disagree		73	74%	91%	
The government should do more to control tobacco use	679				0.326
Agree		89	85%	88%	
Neither agree nor disagree		3	4%	5%	
Disagree		9	11%	7%	
Tobacco companies do good things for society	618				0.607
Agree		11	9%	7%	
Neither agree nor disagree		3	5%	4%	
Disagree		86	86%	89%	
Your smoking is dangerous to nonsmokers.**	175				
Agree		70	NA	NA	
Neither agree nor disagree		2	NA	NA	
Disagree		28	NA	NA	
You enjoy tobacco too much to give it up*	395				0.291
Agree		58	50%	NA	
Neither agree nor disagree		2	4%	NA	

Table 3 (continued.)

Question	<i>n</i>	Smoker (<i>n</i> = 249) (%)	Smokeless tobacco user (<i>n</i> = 248)	Non-user of tobacco (<i>n</i> = 266)	Chi-square statistic
Disagree If you had to do it over again, you would not have started using tobacco*	423	40	45%	NA	0.532
Agree		51	50%	NA	
Neither agree nor disagree		4	7%	NA	
Disagree		45	43%	NA	

Bold entries indicate statistical significance, $p < 0.05$.

* Question was asked only of smokers and smokeless tobacco users.

** Question was asked only of smokers.

Table 4 Perceptions of overall health by tobacco use status and locale.

Habit	Locale	<i>N</i>	Mean	SD
Smoker	Maharashtra Urban	46	3.2	0.78
	Maharashtra Rural	68	2.8	0.91
	Bihar Urban	23	2.8	1.19
	Bihar Rural	111	3.2	0.72
	Total	248	3.0	0.85
Smokeless tobacco user	Maharashtra Urban	57	3.4	0.68
	Maharashtra Rural	57	2.9	0.71
	Bihar Urban	40	3.1	1.10
	Bihar Rural	94	3.4	0.59
	Total	248	3.2	0.77
Non-user	Maharashtra Urban	49	3.6	0.58
	Maharashtra Rural	60	3.3	0.80
	Bihar Urban	66	3.5	0.64
	Bihar Rural	89	3.5	0.68
	Total	264	3.5	0.68

Note: Overall health was measured with the question: "Now a question about your overall health. In general, how would you describe your health?" Response options provided included: 'poor' (0), 'less poor', 'good', 'very good', or 'excellent' (4).

an intrinsic level of cognitive dissonance within the smoker with the cognitive knowledge that tobacco use is bad for their health conflicting with the emotional drive to continue their use. The presence of tobacco advertising and promotions in the environment can serve to reinforce the visceral need that tobacco users feel to continue use, as well as maintain the perception that tobacco use is socially acceptable and prevalent in the society around them. Diminishing these perceptions is critical to encouraging tobacco users towards cessation (Roeseler and Burns Tobacco Control 2010 April).

Limitations of the present study include the fact that the data collection was limited to two states in India and therefore cannot be generalized to the whole country. Changes in the tobacco control environment in India have occurred since this pilot

survey was conducted, including the implementation of graphic health warning labels on tobacco packaging. Therefore, the results cannot be considered representative of use, knowledge, or beliefs of all tobacco users and non-users and cannot be generalized to all of India. However, this study was designed as a pilot study to test not only the survey questions, but also the feasibility of the methods of sampling and survey administration in urban and rural areas in India for a larger Wave 1 TCP India Survey, recently completed in urban and rural regions in four states in India (Maharashtra, Bihar, Madhya Pradesh, and West Bengal). Results from this survey rely on self-reported data with the potential for recall bias and social desirability bias. However, it is hypothesized that this bias is non-differential across the different locales of residence and therefore the estimates between

the different locales would not be significantly different. In spite of this, these limitations must be acknowledged and the data interpreted with these in mind. In addition, this is a cross-sectional survey; inherent in the design is the limitation of determining causal relationships between beliefs about tobacco use and products and their relationship with noticing pro-tobacco advertising and promotion. The longitudinal design of the expanded TCP India Survey may help clarify these associations, as well as more explicit evaluations of media and marketing campaigns immediately following their implementation.

5. Conclusions

The findings from this study reiterate the need for stronger legislation and strict enforcement of bans on direct and indirect advertising and promotion of tobacco products in India. Additionally, the findings suggest that point of sale is an increasingly important venue for communication with tobacco users, as well as the need for stronger and more frequent anti-tobacco campaigns in India in all media outlets, including radio, TV, point of sale, and posters – some of the most frequently noticed media outlets reported by respondents. Tobacco control advocates in India might consider supporting a policy similar to the Fairness Doctrine implemented in the United States in 1971, which required one anti-tobacco message for every pro-tobacco message on television. Implementation of this requirement essentially removed tobacco advertising from TV in the United States of America. A similar regulation in India for all media outlets may assist in enforcement of the indirect and direct advertising ban as it was intended in COTPA 2003.

Conflict of interest

The authors declare no conflict of interest.

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