

Smoking behaviour and attitudes of Hungarian Roma and non-Roma population towards tobacco control policies

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Abstract

Objectives To assess the smoking status and support for tobacco control policies among the Roma minority compared with the non-Roma population in Hungary.

Methods A cross-sectional survey was delivered among Roma minority and local non-Roma population; 83 Roma and 126 non-Roma people were interviewed. Chi-square tests and logistic regression were applied to compare Roma and non-Roma populations.

Results The prevalence of smoking was significantly higher and the support for tobacco control measures was significantly lower in the Roma population. This effect of ethnicity on attitudes toward tobacco control was explained somewhat, but not completely, by the Roma group's higher rate of smoking and lower level of education.

Conclusions Tobacco control policies are a proven strategy for denormalizing smoking and discouraging initiation. This strategy has important potential for Roma communities because of their high rates of tobacco use. However, this study shows that the Roma are resistant the

efforts to limit smoking. Changing these attitudes will require targeted public health interventions that take into account not only the lower educational levels of the Roma, but also their cultural beliefs regarding tobacco.

Keywords Tobacco control · Roma minority · Attitudes · Hungary

Introduction

The most marginalized ethnic minority in Europe are the Roma. The Roma population in Europe is estimated at 8–12 million, with the greatest number living in the Central Eastern European countries of Romania, Slovakia, Bulgaria, Hungary, and the former Yugoslavia. In virtually every one of these countries, the Roma have lower life expectancies and higher burdens of disease than any other ethnic group (Hajioff and McKee 2000; Kósa et al. 2007; Rosicova et al. 2010; Simko and Ginter 2010; Tanner 2005).

According to the 2001 Hungarian census, only 190,046 people (approximately 2% of the total Hungarian population) called themselves Roma (Hungarian Central Statistical Office 2001). The education level, the socioeconomic status (SES), and employment rate of the Roma population are considerably lower than among other Hungarian sub-populations, conditions that are associated with increased risk for disease and disability. This has been confirmed by the Roma Health Survey (between 2001 and 2003), which revealed that people living in Hungarian Roma settlements have much poorer health than the country's overall population (Kósa et al. 2007).

Given the well-established link between smoking and a wide variety of serious illnesses (USDHHS 2010), it can be safely concluded that the poorer health of Hungary's Roma population is due at least in part to their higher rates of

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smoking. The Roma in Hungary smoke at rates two to five times higher than the general population (Balázs et al. 2010; Kósa et al. 2007; Vokó et al. 2009). Gerevich et al. (2010) found an association between Roma ethnicity and prevalence of substance abuse (e.g., smoking) in adolescents. Other Hungarian studies found that Roma persons were significantly younger than the general Hungarian population when they started to smoke (Balázs et al. 2010; Kósa et al. 2007). A recent study from Slovakia found a contrary pattern, with lower rates of smoking among Roma teenaged girls than among non-Roma girls (Kolarčík et al. 2010). The contrast in results may reflect the fact that the Roma girls included in the Kolarčík study all attended regular schools, and thus may not be representative of the overall population of Roma adolescent girls.

It is well established that people with lower SES are more likely to start smoking, more likely to become regular smokers, and less likely to quit (Gilman et al. 2003; Siahpush et al. 2006). To a large extent, the higher rates of smoking among the Roma population in Hungary can be explained by the fact that the Roma tend to be poorer and less educated than members of other ethnic groups. However, the Roma smoke at even higher rates than would be expected given their SES level (Vokó et al. 2009).

The excessive smoking rates among the Roma call for population-specific efforts to change the social norms around tobacco use. Today, there is no doubt that comprehensive smoke-free laws and other policy, systems and environmental changes to address tobacco use in communities are associated with significant health benefits in the general population (Goodman et al. 2009; Centers for Disease Control and Prevention 2007; Francis et al. 2010). Tobacco control policies are designed to change the social and environmental conditions in ways that prevent vulnerable populations (especially children) from starting to use tobacco products, that enable and support smokers trying to quit, and that protect non-smokers from the harmful effects of environmental tobacco smoke (ETS).

With the ratification of the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) in 2004 (WHO 2003), Hungary committed to implementing tobacco control legislation and policies. However, even with this national commitment, it is an open question as to whether Roma communities in Hungary will implement these approaches. This will depend in large part on the attitudes that the Roma population show towards tobacco control policies. Support from the local population is crucial to creating the political pressure necessary to pass municipal ordinances that limit smoking in various public locations (e.g., restaurants, workplaces, playgrounds). Likewise, without public support, whatever policies are passed by local, regional and national governments will be difficult to enforce in practice.

The major purpose of this study was to compare current smoking status and support for various tobacco control policies in the Roma minority with the non-Roma majority population living in the same area of Hungary, controlling for gender, age, education level and smoking status.

Methods

Study design and population

The results reported here come from a 2009 survey of Roma and non-Roma residents living in and around the city of Szeged in southern Hungary. A sample of individuals aged 16–70 years was selected, one person from each identified household. In case of Roma people, the sample was randomly selected from the list of the Roma households drawn up by the local Centre of Humanitarian Services. Centre social workers or nurses have a daily contact with Roma people in the area, addressing health, housing, employment and humanitarian needs. The selection of non-Roma respondents was based on the list provided by the Central Office for Administrative and Electronic Public Services of Hungary. The Roma participants lived separately in a closed community near the city with no regular contact with non-Roma people. Of the 100 Roma people planned for inclusion, 83 interviewees participated in the survey (response rate = 83%). From a sample of 150 non-Roma adults from same area, 126 completed the survey (response rate = 84%). The same questionnaire was used for both samples. For the non-Roma participants, the surveys were distributed by project staff and completed in writing by the participant. Because of literacy issues, the Roma participants completed their surveys through interviews. Two interviewers who were known by the members of the Roma community conducted these interviews.

The study protocol was approved by the Regional and Institutional Human Medical Biological Research Ethics Committee of the University of Szeged (No. 2431/2008). Informed written consent was obtained from the study population, in case of youth (under 18 years) parental permission was sought to speak with the youth.

Study variables

The survey collected information on demographics, smoking behaviour, knowledge of and attitudes toward smoking and quitting, and attitudes toward tobacco control policies.

Basic demographic characteristics included gender, age and education. Age was categorized as 16–24, 25–44, 45–64 or 65–70 years old. Education level was categorized

into three groups: low level (no more than primary school), medium level (grammar school, trade school, vocational secondary school), and high level (college, university).

Smoking status was measured according to WHO guidelines (WHO 1998) (e.g., Have you ever smoked a whole cigarette? Have you smoked at least 100 cigarettes in your life? Think of the last 30 days; what was the average number of cigarettes you smoked per day?). Smoking status of the respondents was classified as current, former or non-smokers. A current smoker was defined as someone who smoked daily or occasionally in the past 30 days. Former smokers were those who smoked in the past—at least 100 cigarettes in one's lifetime—but were not smoking for the preceding 30 days. Non-smokers were those who have never smoked or who smoked fewer than 100 cigarettes in their life (WHO 1998).

Attitudes were assessed for two distinct types of tobacco-control policies, those addressing ETS exposure

and those addressing marketing and availability of tobacco products (see Table 1 for the policies assessed). The specific policies/questions included relate to corresponding FCTC objectives (WHO 2003) and are consistent with the key outcome indicators that are used to evaluate comprehensive tobacco control programs (Starr et al. 2005). Survey items were adapted from those used in large-scale tobacco control evaluation studies, such as the California Adult Tobacco Survey (CATS 2007). Attitudes toward various tobacco control policies were measured by specifying the level of agreement as strongly agree, agree, disagree, strongly disagree or uncertain with various policies. For the purposes of analysis, responses were dichotomized into support (strongly agree or agree) versus non-support (disagree, strongly disagree, uncertain) of the respective policy.

Reliability and the validity of survey items were evaluated in pilot study involving test–retest examination and

Table 1 Sociodemographic characteristics, smoking status and support for various tobacco control policies among Roma and non-Roma from Szeged, Hungary, 2009

Characteristics	Roma (<i>n</i> = 83)		Non-Roma (<i>n</i> = 126)		<i>p</i> value ^a
	<i>n</i>	%	<i>n</i>	%	
Gender					0.149
Male	42	50.6	51	40.5	
Female	41	49.4	75	59.5	
Age group, years					0.232
16–24	14	16.9	10	7.9	
25–44	40	48.2	62	49.2	
45–64	25	30.1	47	37.3	
65–70	4	4.8	7	5.6	
Education level					<0.001
Low	77	92.8	7	5.6	
Medium	5	6.0	85	67.5	
High	1	1.2	34	27.0	
Smoking status					<0.001
Current smoker	60	72.3	56	44.4	
Former smoker	0	0.0	25	19.8	
Non-smoker	23	27.7	45	35.7	
Supporting tobacco control policies					
Bans on smoking in closed public places	15	18.1	103	81.7	<0.001
Restrictions on smoking in outdoor public areas	20	24.1	104	82.5	<0.001
Bans on smoking in restaurants, cafeterias	24	29.3	94	74.6	<0.001
Restrictions on smoking in work places	25	35.7	95	75.4	<0.001
Bans on smoking in health care institutes	50	60.2	118	93.7	<0.001
Bans on sponsoring tobacco products	23	27.7	71	57.3	<0.001
Bans on advertising tobacco products	23	27.7	91	72.2	<0.001
Increasing the prices of tobacco products	15	18.1	67	53.2	<0.001
The owners of shops have to pay fines if selling cigarettes to minors	37	44.6	122	96.8	<0.001
Enforcing restrictions on selling tobacco products to minors	38	45.8	119	94.4	<0.001

^a The results of Chi-square test

measures of internal consistency of key constructs. There were no significant differences in response choices in the 2-week test–retest study. Internal consistency of key variables was acceptable for both items assessing support for policies addressing ETS exposure (Cronbach alpha = 0.86), and those addressing marketing and availability of tobacco products (Cronbach alpha = 0.82).

Analysis

Chi-square tests were used to compare Roma and local non-Roma samples on demographic characteristics, smoking status, and the respondents' favourable attitudes toward tobacco control policy measures. Univariate and multivariate logistic regressions were used to assess the effect of ethnicity on the attitudes; odds ratios (OR) and 95% confidence intervals (95% CI) were calculated for each measure. Support versus non-support of the respective policy was the dependent categorical variable, while ethnicity, gender, age, education and smoking status were the independent variables. To reveal the effect of ethnicity on support of a policy one univariate and three multivariate models were tested. Nagelkerke *R* square (Nagelkerke R^2) values were used to compare the explanatory power of the models (Nagelkerke 1991). Statistical significance was set at $p < 0.05$. Data analyses were performed using SPSS 17.0 for Windows.

Results

Sample characteristics are summarized in Table 1. The age and sex distribution of Roma and local non-Roma survey respondents were similar, but a significantly greater proportion of Roma reported low educational levels; in fact, only one Roma respondent was highly educated, and more than half of them (58.3%) had not finished primary school.

Smoking rates (Table 1) were higher for Roma participants (72.3% smoked everyday) than for non-Roma participants (37.3% smoked everyday and 7.1% smoked occasionally).

Table 1 shows the percentage of respondents who agreed with the various tobacco control measures. The highest level of support was found for restricting/banning smoking in health care institutes and for regulating retail access to tobacco products by children.

In the univariate models (Model 1 in Table 2), support for tobacco control measures was significantly lower among the Roma respondents as compared to the local non-Roma respondents (OR ranged from 0.03 to 0.29).

The multivariate models assessed whether the ethnic differences in attitudes observed in the univariate analyses can be accounted for by other factors known to influence

support for tobacco control, namely age, gender, education and smoking status. Including age and gender as covariates (Model 2 in Table 2) produced very little change in the observed effect of ethnicity: OR ranged from 0.02 to 0.27 (all significant at $p < 0.001$). In contrast, adding education level (Model 3) did decrease the contribution for ethnicity for most of the outcome measures, and actually caused ethnicity to be no longer significant in two instances (restrictions on smoking in work places and increasing the price of tobacco products). Adding smoking status (Model 4) reduced the observed effect of ethnicity even more. Even so, the last set of analyses reveals that for five of the ten measures, ethnicity remained a significant predictor of attitudes. Thus, even taking into account the fact that the Roma are less educated and more likely to smoke than their non-Roma counterparts, there is additional resistance to tobacco control policies, especially policies that attempt to limit tobacco access by minors and to eliminate smoking in public places.

Discussion

This study demonstrates that tobacco control policies are generally well accepted by the non-Roma population in southern Hungary, but much less so among the Roma minority living in the area. This resistance has important practical implications because public support for tobacco policies is widely recognized as a necessary precondition to enacting change (Alamar and Glantz 2006; Hamilton et al. 2008; Starr et al. 2005).

The greater resistance to tobacco control measures among the Roma group can be explained only partially by the lower levels of education among this population. These results are consistent with the Hungarian Roma Health Survey, which showed that health behaviour among the Roma is poorer than would be expected simply as a result of their lower socioeconomic status (Vokó et al. 2009). Culture also appears to play a role.

Research has shown that the Roma are much more accepting of smoking and more resistant to efforts that limit tobacco use. For example, a qualitative focus group-based study involving 12 representatives of the Roma community in southern Slovenia showed that Roma people see smoking as a part of their ethnic and individual identity, and reportedly do not pay attention to passive smoking exposure of family members, even children (Petek et al. 2006). Moreover, because of culturally supported views on destiny and fatalism, Roma do not regard smoking as a health risk (Petek et al. 2006).

The findings from our study partly confirm Petek et al.'s (2006) results: on the one hand, the majority of Roma respondents did not support restrictions on smoking in

Table 2 The agreement with various tobacco control policies among Roma and non-Roma from Szeged, Hungary, 2009

	Model 1: ethnicity		Model 2: ethnicity + age, gender		Model 3: ethnicity + age, gender, education		Model 4: ethnicity + age, gender, education, smoking	
	OR (95% CI)	N-R ²	OR (95% CI)	N-R ²	OR (95% CI)	N-R ²	OR (95% CI)	N-R ²
Restrictions/bans on smoking in								
Closed public places	0.05 (0.02–0.10)***	0.461	0.04 (0.02–0.10)***	0.515	0.15 (0.04–0.65)*	0.540	0.15 (0.04–0.65)*	0.602
Outdoor public areas	0.07 (0.03–0.13)***	0.403	0.07 (0.03–0.13)***	0.415	0.11 (0.03–0.41)***	0.420	0.16 (0.04–0.58)**	0.477
Restaurants, cafeterias	0.14 (0.08–0.26)***	0.249	0.14 (0.08–0.27)***	0.271	0.17 (0.05–0.63)**	0.298	0.31 (0.08–1.22)	0.475
Work places	0.18 (0.10–0.34)***	0.192	0.19 (0.10–0.37)***	0.230	0.35 (0.10–1.18)	0.242	0.62 (0.17–2.26)	0.369
Health care institutes	0.10 (0.04–0.24)***	0.250	0.09 (0.04–0.21)***	0.298	0.12 (0.03–0.60)**	0.300	0.18 (0.04–0.88)*	0.334
Controlling the availability of tobacco products								
Bans on sponsoring	0.29 (0.16–0.52)***	0.111	0.27 (0.15–0.51)***	0.148	0.21 (0.06–0.75)*	0.150	0.38 (0.09–1.55)	0.334
Bans on advertising	0.15 (0.08–0.27)***	0.239	0.14 (0.07–0.26)***	0.323	0.26 (0.07–0.91)*	0.332	0.53 (0.13–2.09)	0.503
Increasing the prices	0.19 (0.10–0.38)***	0.166	0.19 (0.10–0.38)***	0.173	0.35 (0.10–1.21)	0.181	0.63 (0.17–2.35)	0.304
Paying fines if selling cigarettes to minors	0.03 (0.01–0.08)***	0.479	0.02 (0.01–0.07)***	0.534	0.05 (0.01–0.24)***	0.540	0.07 (0.01–0.38)**	0.602
Enforcing restrictions on selling tobacco products to minors	0.05 (0.02–0.12)***	0.401	0.05 (0.02–0.12)***	0.427	0.09 (0.02–0.45)**	0.455	0.12 (0.02–0.64)*	0.525

Reference category for ethnicity is non-Roma (OR = 1.00)

OR odds ratio, CI confidence interval, N-R² Nagelkerke R²

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

public places and work places, but on the other hand the majority supported restrictions on smoking in health care institutes. Less than half of Roma respondents supported measures to control selling cigarettes to minors, but this support was nonetheless significantly lower than the support measured in the non-Roma sample.

Limitations of the study

There are at least three limitations to the present study: (1) the sample was drawn from only one of the regions where the Roma reside (communities in and around Szeged, Hungary); (2) the number of participants was relatively small; and (3) different methods were used to collect data from Roma participants (interviews) versus non-Roma participants (self-administered survey). The first and second limitations may narrow the generalizability of the study's findings. With regard to the third limitation, it is possible that the in-person interviews encouraged more socially desirable responses than the self-administered questionnaires, but such an effect would imply that the Roma group had even higher levels of smoking and lower support for tobacco-control measures than was reported here.

Despite its limitations, this is the first study to explore attitudes toward tobacco control policies among Roma and non-Roma residents in Hungary. The results can guide interventions to build public support for tobacco control. In addition, the data serve as a baseline for future population surveys to monitor changes in attitudes toward tobacco control policy implementation and enforcement.

Recommendations

To reverse the adverse health, economic and social impacts of tobacco use in the Roma population, there is a pressing need for population-specific public health interventions. It is especially important to shape public opinion in favour of effective tobacco control policies and practices. Our findings imply that these efforts will need to take into account the low levels of formal education among the Roma, as well as their unique culture. Droomers et al. (2002) described the inefficiency of traditional smoking cessation programs among lower educated populations. Our findings suggest that standard tobacco control policies will also produce questionable results when applied to Roma populations.

Despite the burden of tobacco-related disease and disability, the “denormalization” of smoking in the Roma population remains a significant challenge requiring approaches that can overcome deep cultural roots. Roma social norms and values related to smoking create substantial barriers to changes in the social acceptability of

non-smoking, and culturally tailored strategies are necessary to change smoking behaviour among the Roma.

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Conflict of interest The authors declare that they have no competing interest.

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