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Brief Original Report

Assessment of the smoke-free outdoor regulation in the WHO European Region

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ABSTRACT

Objective. The aim of this study is to assess the level of protection of secondhand smoke in outdoor locations among countries belonging to the WHO European Region.

Method. This cross-sectional study measures the level of protection provided by laws in outdoor locations. A protocol to evaluate the outdoor smoke-free legislation was developed according to the recommendations provided by the WHO Guidelines for implementing smoke-free outdoor places. For each law 6 main sectors and 28 outdoor locations were evaluated.

Results. 68 laws from 48 countries were reviewed, totally assessing 1758 locations. Overall 3.1% of the locations specified 100% smoke-free outdoor regulation without exceptions, 2.5% permitted smoking in designated outdoor areas, 37.5% allowed smoking everywhere, and 56.9% did not provide information about how to deal with smoking in outdoor places. In the Education sector 17.8% of the laws specified smoke-free outdoor regulation, mainly in the primary and secondary schools. Three pioneering laws from recreational locations and two from general health facilities specified 100% outdoor smoke-free regulation.

Conclusion. Outdoor smoke-free policies among countries belonging to the WHO European Region are limited and mainly have been passed in the primary and secondary schools, which protect minors from the hazards of secondhand smoke in educational settings.

Introduction

There is no safe level of exposure from secondhand smoke (SHS), which has been proven to cause death, disease and disability (IARC Working Group, 2009). The World Health Organization Framework Convention on Tobacco Control (WHO FCTC) addresses SHS protection in Article 8 (WHO, 2007). In 2007, the guidelines for implementing Article 8 recommended adopting smoke-free legislation 'wherever the evidence shows that hazard exists' including quasi-outdoor and outdoor places (WHO, 2007).

Most studies report the existence of high SHS levels in outdoor and in entrances of smoke-free indoor areas where smoking is prohibited, although SHS levels could differ depending on atmospheric and structural conditions (Sureda et al., 2013). Current evidence on the impact of SHS outdoor exposure in health includes the increase of risk of respiratory symptoms (Balmes et al., 2014) and the increase of clinical exacerbations (Barnett et al., 2005). Regardless of the lack of complete evidence on the health effects, outdoor smoke-free legislation could have other beneficial effects such as decreasing youth initiation, trigger quit attempts, reducing smoking, and denormalizing its consumption in our society (Chapman, 2008; Thomson et al., 2009; Zablocki et al., 2014). Policy improvements occur when local innovations are advanced to a national level, increasing their coverage, setting a common social norm, and decreasing confusion about the policy (Francis et al., 2010). Several jurisdictions have passed smoke-free restrictions in outdoor spaces at the province, state or national level (Globalsmokefree Partnership, 2009; Hyland et al., 2012; IARC Working Group, 2009). While in the United States, Canada, and Australia early progress in smoke-free legislation occurred primarily at the local level (Americans for Nonsmokers' Rights, 2004), smoke-free laws in Europe have been introduced through passing nation-wide laws (Martinez et al., 2013).

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Most WHO European Region countries have passed national indoor smoking bans (Britton and Bogdanovica, 2013), however there are no systematic evaluations of outdoor smoke-free legislation in this region. This study assessed outdoor smoke-free legislation in the WHO European Region countries, according to the FCTC Article 8 Guidelines for implementation (WHO, 2007).

Methods

We conducted a cross-sectional study of smoke-free legislation in the WHO European Region countries. Using procedures previously reported (Martinez et al., 2013) we collected and analyzed national/regional smoke-free laws in force from July to October 2011 and available in English, German, Portuguese or Spanish. The laws were retrieved through three different sources: 1) legal database of the Tobacco Free Initiative at WHO, 2) the database of the European Network for Smoke-free Prevention (ENSP), and 3) personal contacts through email to ENSP National representatives and/or tobacco control experts. Of the 53 countries of the WHO European Region (http://www.euro.who.int/en/countries) we obtained a total of 61 smoke-free laws from 48 countries. Germany has 16 federal laws (one per each land) for all the sectors except for workplaces and public transports (ruled by a national law). The United Kingdom has separate laws for England, Northern Ireland, Scotland and Wales. Overall, 5 smoke-free WHO European laws were not included in the study, because they were not available in any of our 3 sources and/or were not available in English, German, Portuguese or Spanish. An assessment protocol was created to define the type of outdoor smoke-free legislation provided by each law in each sector and location selected. The six main sectors of evaluation were: 1 — Health and social care facilities, 2 — Education, 3 — Public places, 4 — Workplaces, 5 — Hospitality, and 6 — Public transportation. Each main sector was composed of several locations, with a total of 28 outdoor locations.

The protocol described whether or not smoking outdoors was allowed in the selected location and, if smoking was allowed, under what conditions. Four possible classifications were established: 1) 100% smoke-free outdoor regulation without exceptions; 2) smoking outdoors allowed in designated areas; 3) smoking outdoors allowed; and 4) no information provided about how to regulate smoking outdoors. This evaluation protocol was based on the WHO's Guidelines for implementation of Article 8 (WHO, 2007).

We evaluated 66 laws for the Health & Social Care sector and 66 laws for the Education sector. Within the Public places sector, there were 67 laws for Governmental facilities, 66 for Recreational facilities, Commercial/Shopping facilities, and Sport facilities, 51 for Workplaces including Offices and Manufacturing facilities, and 65 for Prisons. There were 66 laws for the Hospitality sector, and 51 laws for Public transportation sector. The laws were independently assessed by two researchers. We calculated the percentage of locations in each category and their 95% confident intervals (CI), using the Wald or the Wilson method as appropriate, by each sector and by each of the four outdoor smoke-free policy categories in the 28 outdoor locations.

Results

We assessed 1758 outdoor locations from the 66 laws obtained. From all the locations, 3.1% (95% CI: 2.4–4.0) had 100% smoke-free outdoor regulations without exception, 2.5% (95% CI: 1.9–3.3) permitted smoking in designated outdoor areas, 37.5% (95% CI: 35.3–39.8) allowed smoking everywhere, and 56.9% (95% CI: 54.6–59.2) did not provide information about outdoor smoking.

Table 1 summarizes the percentages of the four possible outdoor smoking regulations by the 28 locations. In the Health & Social Care sector more than 50% of laws provided no information about regulating outdoor smoking. Between 40.9% and 45.5% of the laws allowed smoking in all outdoor areas. In the general health facility location, 2 out of the 66 laws had a smoke-free outdoor policy, meaning that smoking was completely prohibited on the hospital grounds, and 1 out of the 66 laws limited outdoor smoking to designated areas.

In the Education sector, 27.3% of laws in primary schools, 22.7% in secondary schools, and 18.2% in other education facilities had 100% smoke-free outdoor regulation. Overall, about 17.8% of the laws (47 from the 264 locations pulled out from the assessment of the 66 laws in 4 locations) had 100% smoke-free outdoor regulation. In the Public places sector, none of the laws had 100% smoke-free outdoor regulation in governmental facilities, prisons, health ministry or cultural facilities. However, three laws in recreational facilities and one law in open sport facilities specified 100% smoke-free outdoor areas. In the Workplace sector, approximately 75% of the laws contained no restriction on outdoor smoking. In the Hospitality sector, no law had 100% smoke-free outdoor regulation, but three laws limited smoking to designated areas. Between 43.9% and 46.9% of the laws of this sector allowed smoking in outdoor areas of bars and restaurants. Finally, in the Public transport sector 68.6% to 78.4% of the laws – depending on the type of transportation – did not mention restrictions regarding outdoor smoking.

Discussion

This is the first systematic study of outdoor smoke-free legislation in the WHO European Region countries. Previous studies have shown that non-smokers are exposed to SHS in outdoor areas where smoking is allowed (Licht et al., 2013; Sureda et al., 2013), and that SHS concentration is higher in outdoor locations such as bus stops, stadiums, bars and restaurants. In addition, when smoking is allowed in entrance areas, smoke-free indoor locations have high levels of SHS (Licht et al., 2013; Sureda et al., 2013). In the absence of complete evidence of its impact on health, prohibiting smoking outdoors may have other potential benefits such as making its use less socially acceptable, reducing smoking initiation, reducing fire risk, and decreasing pollution (Francis et al., 2010; Thomson et al., 2009).

In our study, primary and secondary schools were the outdoor locations most protected from SHS. One study reported that the majority of the public support smoking bans in selected outdoor areas such as hospitals (79.9%) and school grounds (85.9%) (Gallus et al., 2012). On the other hand, another study found that only 24% of non-smokers and 10.3% of smokers support smoke-free outdoor bars and restaurants (Kennedy et al., 2012). Public support for smoke-free outdoor areas is higher for areas frequented by children (schools and playgrounds) than for any other areas (Gallus et al., 2012; Kennedy et al., 2012; Thomson et al., 2009).

Smoke-free legislation is one of the six evidence-based components included in the WHO MPOWER package to reduce tobacco consumption (WHO, 2008). WHO FCTC signatories should address these six measures to effectively tackle tobacco in our society, but smoke-free legislation is, with doubt, the first step to protect non-smokers from the hazards of SHS (Nikogosian, 2010). The majority of European indoor smoke-free legislation (Britton and Bogdanovica, 2013) was implemented after signing the WHO FCTC and motivated by the successful experiences of neighboring countries (Gorini et al., 2010). Our study identified few laws prohibiting smoking in outdoor spaces, and these laws may reflect early adopting countries and may also set precedent for future change (Rogers, 2003).

Regulation of tobacco is a controversial public policy (Jacobson et al., 1997), and is under threat from the tobacco industry (Tsoukalas and Glantz, 2003). Current Spanish outdoor smoke-free legislation, which prohibits smoking on hospital grounds and playgrounds, is an example of how health advocates are able to advance smoke-free outdoor legislation by supporting policy-makers through a strong community coalition (Fernandez and Martinez, 2010; Gruer et al., 2012).

Study limitations include evaluation of the presence of outdoor smoking laws, and protections described in those laws. We also did not assess compliance with existing legislation. However, a recent study evaluating the Spanish comprehensive smoke-free legislation, – which bans smoking in outdoor areas in playgrounds and hospital campuses, – confirms a high reduction in SHS exposure, mainly during leisure time (Sureda et al., 2014). In addition, we were not able to include data from all the 53 countries of the WHO European Region, only 48 of them (representing 71% of the region's population). We were not able to include local or province laws implemented in some

Table 1
Percentage of locations that rule: 100% smoke-free outdoors, allow smoking in designated areas only, allow smoking everywhere and do not provide information about smoking outdoors.

Sectors (locations)	N	100% smoke-free regulation		Smoking allowed in designated areas		Smoking allowed everywhere		No information provided	
		n	%	n	%	n	%	n	%
Sectors and locations									
Health care sector									
General health facility	66	2	3.0	1	1.5	30	45.5	33	50.0
Mental health (long)	66	0	0.0	2	3.0	27	40.9	37	56.1
Mental health (short)	66	0	0.0	2	3.0	28	42.4	36	54.6
Mental health outpatients	66	1	1.5	1	1.5	29	44.0	35	53.0
Nursing home (long)	66	0	0.0	1	1.5	28	42.4	37	56.1
Nursing home (short)	66	0	0.0	1	1.5	28	42.4	37	56.1
Nursing home ambulatory	66	0	0.0	1	1.5	29	44.0	36	54.5
Social care	66	0	0.0	1	1.5	29	44.0	36	54.5
Education sector									
Primary	66	18	27.3	2	3.0	20	30.3	26	39.4
Secondary school	66	15	22.7	3	4.6	20	30.3	28	42.4
University school	66	2	3.0	1	1.5	34	51.5	29	44.0
Other	66	12	18.2	3	4.6	18	27.2	33	50.0
Public places sector									
Governmental facilities	67	0	0.0	2	3.0	32	47.8	33	49.2
Prisons	65	0	0.0	0	0.0	23	35.4	42	64.6
Health ministry	66	0	0.0	2	3.0	28	42.4	36	54.6
Cultural facilities	66	0	0.0	1	1.5	28	42.4	37	56.1
Recreational facilities	66	3	4.6	1	1.5	24	36.4	38	57.5
Shopping facilities	66	0	0.0	1	1.5	26	39.4	39	59.1
Sport facilities	66	1	1.5	2	3.0	26	39.4	37	56.1
Workplaces sector									
Offices	51	0	0.0	3	5.9	9	17.7	39	76.5
Manufacturers	51	0	0.0	3	5.9	10	19.6	38	74.5
Hospitality sector									
Restaurants and cafeterias	66	0	0.0	3	4.5	31	46.9	32	48.5
Pubs, bars, nightclubs	66	0	0.0	3	4.5	29	43.9	34	51.5
Hotels	66	0	0.0	0	0.00	26	39.4	40	60.6
Transport sector									
Public vehicles	51	0	0.0	1	1.9	15	29.4	35	68.6
Trains	51	0	0.0	1	1.9	13	25.5	37	72.5
Ships	51	0	0.0	1	1.9	10	19.6	40	78.4
Stations	51	0	0.0	1	1.9	10	19.6	40	78.4
Overall locations	1758	54	3.1	44	2.5	660	37.5	100	56.9

European municipalities and regions. Although less frequent than in the United States (Americans for Nonsmokers' Rights, 2012) some municipalities in Italy and Spain have launched outdoor smoke-free initiatives in parks, playgrounds and beaches (Globalsmokefree Partnership, 2009). Nevertheless, ours is the only work available to benchmark how outdoor smoke-free legislation is implemented in the WHO European Region, and offers a baseline for future evaluation.

Outdoor smoke-free legislation in the WHO European Region is limited, and mainly has been passed in the primary and secondary schools. More countries should adopt outdoor smoke-free regulation in locations where minors and vulnerable populations are exposed to the hazards of SHS, such as school grounds and areas surrounding hospitals.

Contribution statement

C Martinez and J Guydish conceptualized this study and led the manuscript. C Martinez and G Robinson conducted the assessment of the laws. J Martinez executed the analysis, and participated in the data interpretation. All authors read and commented the final version of this manuscript.

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Conflict of interest statement

None of the authors have any connection with the tobacco, alcohol, pharmaceutical or gaming industries or anybody substantially funded by one of these organizations.

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