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Abstract

Background: In 2002, the Government of Pakistan implemented a national law governing the use of tobacco products. The law included smoke-free policies banning smoking in all public places, and required no-smoking signage to be displayed at all such venues. Compliance with smoke-free policies is imperative, as it protects the health of nonsmokers. Almost two decades later, efforts to assess compliance with smoke-free policies in Karachi have been lacking, with only one study conducted in 2016.

Aims: To investigate smoke-free compliance across public places in Karachi, the most populous city in Pakistan.

Methods: A cross-sectional observational study was conducted in the east and south districts of Karachi between October and December 2019. Data pertaining to evidence of smoking (observed smoking, cigarette butt litter, and display of ashtrays/similar instruments), the presence of designated smoking areas/rooms (DSAs/DSRs), and the display and location of no-smoking signage were collected via direct observations. Results are reported using descriptive statistics.

Results: Observations were conducted at 1704 indoor and outdoor public venues. Among the sample, 972 (57%) were compliant with the composite indicator assessing evidence of smoking.

DSAs were observed at 104 (6%) places and DSRs at 16 (1%) places. No-smoking signage was displayed at the main entrance of 104 (6%) places and inside 174 (10%) places.

Conclusion: Compliance with smoke-free policies is lacking in Karachi. Enhanced efforts by enforcement agencies and venue managers are needed to establish 100% smoke-free public places across Karachi.

Keywords: smoking, public places, compliance, smoke-free, Pakistan, enforcement

Citation: Ahsan H; Hoe C; Aslam F; Wright K; Cohen J; Kennedy R. Compliance with smoke-free policies at indoor and outdoor public venues: an observational study in Pakistan. East Mediterr Health J. 2022;28(1):50-57. https://doi.org/10.26719/emhj.22.005
Received: 05/03/21; accepted: 06/07/21

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Introduction

Tobacco use is a major public health concern in Pakistan; 15.5% of the population smokes cigarettes (28.6% of men; 2.3% of women), and 110 000 annual deaths can be attributed to tobacco-related diseases (1,2). Exposure to second-hand tobacco smoke (SHS) can lead to disease and disability among nonsmokers (3), and death from

ischemic heart disease, lower respiratory infections, asthma, and lung cancer (4). The World Health Organization (WHO) recommends the development of 100% smoke-free environments to protect people from the harmful effects of SHS exposure, as there is no risk-free level of exposure to SHS (3,5). Passing smoke-free legislation is not enough, proper implementation and enforcement of smoke-free legislation by public policy-makers is crucial (5).

To protect the health of nonsmokers, the Government of Pakistan passed a national tobacco control law, the “Prohibition of Smoking in Enclosed Places and Protection of Non-smokers Health Ordinance“ in 2002 (6). Pakistan ratified the WHO Framework Convention on Tobacco Control on November 3, 2004 (1). All subnational jurisdictions in Pakistan are covered by the national tobacco control policy (6). Section 5 of the national law prohibits smoking and consumption of other tobacco products in any place of public work or use, including health institutions, amusement centres, restaurants, public offices, educational institutions, sports stadia, and other places that are visited by the public (6). Section 6 prohibits smoking in public service vehicles, which are defined as “any motor vehicle used or adapted, to be used for carriage or passengers for hire or reward, and includes a motor cab, contract carriage and state carriage” (7). Section 10 of the law requires the display of no-smoking signs at any “conspicuous place in and outside the premises visited or used by general public”, by venue owners or managers (6).

In addition, the Ministry of Health of Pakistan issued new regulations in 2009 that rescinded a previously issued ordinance permitting the establishment of designated smoking areas (DSAs) and designated smoking rooms (DSRs) in public places, thus mandating all public places listed in the law to be completely smoke-free (8). The law prohibits the advertisement of tobacco and tobacco products in any public place (6). The aforementioned laws apply to all public places and not just enclosed places.

Results of the Global Adult Tobacco Survey for Pakistan (2014), found that 70% of adults (16.8 million) who worked indoors were exposed to SHS in their workplace, as were 90% of adults (21.2 million) who visited restaurants, and 80% of adults (49.2 million) who used public transport (9). More than 25% of young people aged 13–15 years in Pakistan are exposed to SHS at home (2). Efforts have been made previously to understand the extent to which smoke-free environments have been created across Pakistan. Studies conducted in 2015 and 2018 found that compliance was lacking in the capital city (Islamabad), and five cities across the Punjab Province (10, 11). A pilot study assessing the implementation of tobacco control laws in Karachi was conducted in 2016; however, this was a small study of a limited number of venues (n = 304) and venue types (12).

Karachi is the most populous city in Pakistan, with a population exceeding 23 million (13). Despite being the largest city in Pakistan, a comprehensive assessment of the level of compliance with the smoke-free policies implemented in 2002 is lacking. The objective of this study was to assess smoke-free compliance in multiple indoor and outdoor public places across Karachi. The results will inform the development and implementation of an enforcement programme in the city. A follow-up study will be conducted in the future to assess the impact of this programme; specifically, to assess changes in the level of smoke-free compliance in Karachi.

Methods

Study design

The cross-sectional observational study was conducted in Karachi between October and December 2019. Due to the size of the city and the challenges of studying all seven districts within our study period, the east and south districts were selected as the study areas because of the high level of tobacco control enforcement in the two districts.

Ten categories of public places covered by the national law were included in the sample. These venue types were recommended after consulting with tobacco control experts working at the Tobacco Smoke-Free Capital Initiative in Islamabad, who identified these venue types as priorities. Experts from Islamabad were consulted because they had experience assessing smoke-free compliance at similar venue types in Islamabad and across the Punjab Province, and because of their success in implementing the Tobacco-Smoke Free Islamabad Initiative in Islamabad (14). The 10 types of public places included amusement centres, banks, educational institutions, government offices, health facilities, hotels, private offices (owned by private companies but utilized by the general public), restaurants, sports facilities, and public service vehicles.

Apart from public service vehicles, comprehensive lists of places were identified for all venue types using online web mapping with Google Maps. Subsequently, the places were grouped according to the enforcement agency responsible for overseeing them. For each enforcement agency grouping listed, we ensured that at least 400 places were sampled. Proportional stratified sampling was used to determine the sample size for each venue type. Subsequently, if the total number of places exceeded the sample size identified, random sampling was used; if the total number of places was lower or equal to the sample size identified, census sampling was used. The number of sports facilities and amusement centres identified in the comprehensive lists was

Public service vehicles were not restricted to a certain district; therefore, data collectors used them to travel between places and made observations accordingly. The number and type of public service vehicles to be observed were decided after consultation with in-country partners and the local research firm, taking into account the safety concerns associated with the use of public service vehicles. The final sample included taxis and buses.

Table 1 Venues grouped according to their enforcement agency

Data collection

Local data collectors were hired by Gallup Pakistan, a local market research firm with offices across the country. Data collectors were trained in Karachi by staff from the Institute for Global Tobacco Control and The International Union Against Tuberculosis and Lung Disease on 21–25 October 2019, and included office and field training. They worked in pairs and visited predetermined places during business hours when patrons were most likely to be present. Data collectors were asked to spend 20–30 minutes inside each place and to behave like customers. They used an observational tool on a mobile data collection application (Survey CTO) to record their observations. Due to safety concerns associated with the use of smartphones/tablets inside public transport, data collectors observing public service vehicles filled out the observational tool upon reaching their destination.

The observation tool was developed based on the local law and a guide for conducting compliance studies, titled “Assessing Compliance with Smoke-Free Laws” (15). It included questions on the presence and location of evidence of smoking. The observations captured the following: (1) if the place had patrons actively smoking cigarettes; (2) if the place had cigarette butts; and (3) if the place had ashtrays or other devices used to hold cigarette ash. If active smoking was observed, data collectors captured whether a staff-member tried to stop the patron from smoking.

The observation checklist also captured the display of no-smoking signage at the main entrance and inside the places (for public service vehicles, no-smoking signage was only observed inside the vehicles). For all venues other than public service vehicles, the presence of DSAs and DSRs was noted. A DSR was defined as an enclosed room where smoking was permitted, and a DSA was defined as an open area where smoking was permitted. Although the purpose of our study was to assess compliance with smoke-free policies, observations pertaining to the presence of tobacco sales and advertisements/signs were also observed at all venues types (excluding public service vehicles). Photographs were also taken for quality checks and revisit if required.

Data analysis

Descriptive statistics were calculated using STATA version 15.1 statistical software (StatCorp., College Station, TX, USA). A place was considered compliant with the composite indicator assessing evidence of smoking if: (1) no patron was observed actively smoking; (2) no cigarette butt litter was found; and (3) no ashtrays or other devices used to hold cigarette ash/butts were present on the premises.

Ethical approval

This study was deemed nonhuman research by the Johns Hopkins Bloomberg School of Public

Health's Institutional Review Board in Baltimore, United States of America.

Results

The study conducted observations at 1704 places (Table 2), including 806 (47%) in the East District, 835 (49%) in the South District, and 63 public service vehicles (4%).

Evidence of smoking was observed in all venue types observed across both districts (Table 3). The observation of cigarette butts was the most common (38%, n = 655), followed by active smoking (24%; n = 406) and the display of ashtrays/other instruments (6%; n = 102). Active smoking was highest at amusement centres (44%; n = 88) and restaurants (35%; n = 153). Cigarette butts were observed at more than half of all amusement centres (67%; n = 134), sports facilities (54%; n = 48) and restaurants (51%; n = 223). Ashtrays were most commonly displayed at hotels (33%; n = 27) and private offices (10%; n = 15).

Compliance with the composite indicator assessing evidence of smoking varied by venue type (Figure 1). More than half (57%, n = 972) of all places were compliant with the composite indicator assessing evidence of smoking. Compliance was

The display of no-smoking signage was low across all venue categories (Figure 2); 6% of the places (n = 104) had no-smoking signage displayed at the main entrance, and 10% (n = 174) had no-smoking signage displayed inside the venue. The display of no-smoking signage was highest in banks where 20% (n = 38) had no-smoking signage displayed at the main entrance and almost one half (49%, n = 95) had signage displayed inside. Only 1% of educational institutions (n = 3), private offices (n = 2), and sports facilities (n = 1) had no-smoking signage displayed inside. None of the educational institutions had no-smoking signage displayed at the main entrance. None of the public service vehicles had no-smoking signage displayed inside.

Identified DSAs were more common than DSRs. DSAs were present among 6% (n = 104) of places; DSRs were present among

(n = 56) of restaurants had DSAs on site. DSRs were present among 2% of government offices (n = 2), hotels

(n = 2), and restaurants (n = 7). None of the banks had DSAs or DSRs.

Tobacco advertisements or signs were displayed inside 3% (n = 46) of all places, the majority of which were amusement centres (6%; n = 12) and restaurants (6%; n = 26). Tobacco product sales were observed at 14%

(n = 234) of places. Tobacco product sales were observed at all venue types, and ranged from

(n = 1) to 34% at amusement centres (n = 69). Restaurants had the second-highest sales of tobacco products (21%,

n = 90).

Discussion

The findings from this study indicate that compliance with the smoke-free policies in Pakistan could be improved across all venue types observed in Karachi. Compliance with the composite indicator assessing evidence of smoking was lowest among places that attract large crowds, including amusement centres, restaurants, and sports facilities. This is similar to a previous report in Karachi, where a high incidence of observed smoking (58%) was reported at restaurants (12). Similarly in Islamabad, the incidence of observed smoking was highest in restaurants (24%) and amusement centres, cinemas, and shopping centres (23%) (10). In our study, less than half of all government offices observed (48%) were compliant, which is of particular concern given that several of these house government officials and policy-makers who are responsible for upholding policies. This finding is contrary to that reported in Islamabad, where the incidence of observed smoking was 8% in government offices (10), which could be attributed to Islamabad being the capital, and the first city in Pakistan to launch smoke-free initiatives.

The compliance study previously conducted in Karachi reported university campuses as having a high incidence of smoking (12). Health facilities and educational institutions in our study had higher than average compliance with the composite indicator (89% and 70%, respectively). Measures to enforce strict smoke-free policies at educational institutions and health facilities need to be strengthened to protect the health of adolescents, and vulnerable and sick individuals seeking healthcare.

The display of no-smoking signage was low across all venue types. This is consistent with other studies conducted in Pakistan; for example, in Punjab Province, compliance with the display of no-smoking signage ranged from 10% (in Sialkot) to 39% (in Rawalpindi) (11). The increased display of no-smoking signage is crucial to inform the public of no-smoking policies, and to promote stricter adherence with smoke-free policies in public places.

DSAs were most commonly observed at restaurants (13%), amusement centres (10%) and hotels (9%). Although fewer in number, DSRs were present in

Tobacco advertisements were displayed at 3% of places and tobacco product sales were observed at 14% of places, predominantly at amusement centres and restaurants. Research on tobacco advertising, promotion and sponsorship (TAPS) across Pakistan is limited in scope, thus TAPS compliance studies should be conducted to better understand the TAPS environment in Pakistan, particularly in populated cities where smoke-free compliance studies have been conducted. In January 2020, the Government of Pakistan passed new restrictions to prohibit all tobacco advertising and product display at points of sale, among other prohibitions (16). This is a victory for tobacco control in Pakistan, and provides an opportunity to strengthen TAPS and smoke-free compliance in tandem.

There were some limitations associated with this observational study. This study assessed smoke-free compliance in two of seven districts in Karachi; therefore, our findings may not be generalized to the entire city. As the districts chosen for our study offer better administrative support and enforcement infrastructure, these may be exemplary districts that demonstrate higher smoke-free compliance than the other districts do. Data collectors were advised to spend 20–30 minutes at each place; however, this was not always possible in certain venue types, such as banks. Banks in Pakistan are guarded by heavily armed security, which made it difficult for data collectors to observe banks for the allotted time without being questioned by the security officers. In places where data collectors could not make observations for the recommended 20–30 minutes, some evidence of smoking may not have been captured, thus potentially overestimating smoke-free compliance. Data collectors were cautioned against using tablets/smartphones on public service vehicles due to safety concerns and fear of mugging, therefore observations made inside public service vehicles were inputted once data collectors reached their final destination, thus introducing potential recall bias.

Conclusion

Our study provides detailed insight into the level of smoke-free compliance across a diverse range of public places in Karachi. Despite the implementation of smoke-free policies almost 20 years ago, compliance was poor across all places in Karachi. This study provides evidence to support the need for stricter enforcement of smoke-free policies to reduce public exposure to SHS.

Venue managers are responsible for ensuring that all public places that they operate are smoke free (17); however, they may not be aware of the smoke-free policies, or their duty to enforce these policies. Measures that can be taken by venue managers include the complete elimination of ashtrays/similar devices, DSAs and DSRs; administration of fines to anyone who violates the ban on smoking; and the appropriate display of no-smoking signage. Similarly, officers from enforcement agencies across Karachi who are responsible for implementing these policies and supporting enforcement across places may be unaware of these policies and their duty to enforce them, and should be provided with appropriate training.

Despite high public awareness regarding the harm of smoking [85.8% of adults in Pakistan believe that smoking causes serious illness (9)], awareness of smoke-free places or knowledge regarding the harm of SHS may be lower. For example, in a study assessing medical students' knowledge, attitudes and practices at a university campus in Karachi in 2005, 58.8% of students either did not know, or did not think, that the university was declared a smoke-free zone (18). Social marketing and media campaigns aimed at improving public knowledge, attitudes and perceptions regarding SHS and smoke-free public places have been proven successful in other jurisdictions across Asia and can drive the implementation of comprehensive smoke-free zones (19). Social marketing campaigns, combined with the aforementioned efforts by venue managers and enforcement agencies, can support the development of 100% smoke-free public places in Karachi.

The establishment of 100% smoke-free public places across the East and South districts can act as an example for other districts in Karachi, and other jurisdictions across Pakistan, to strengthen their compliance with smoke-free policies.

Funding: Bloomberg Philanthropies' Bloomberg Initiative to Reduce Tobacco Use.

Competing interests: None declared.

Respect des politiques antitabac dans les lieux publics intérieurs et extérieurs : étude observationnelle au Pakistan

Résumé

Contexte : En 2002, le Gouvernement pakistanais a mis en œuvre une loi nationale régissant

l'usage des produits du tabac. La loi prévoyait des politiques antitabac interdisant de fumer dans tous les lieux publics et exigeait l'installation de panneaux d'interdiction de fumer dans tous ces lieux. Le respect des politiques antitabac est impératif, car elles protègent la santé des non-fumeurs. Près de deux décennies plus tard, les efforts visant à évaluer le respect des politiques antitabac à Karachi font défaut, une seule étude ayant été menée en 2016.

Objectifs : Étudier la conformité à l'interdiction de fumer dans tous les lieux publics de Karachi, la ville la plus peuplée du Pakistan.

Méthodes : Une étude observationnelle transversale a été menée dans les districts de Karachi-Est et Karachi-Sud entre octobre et décembre 2019. Les données relatives aux preuves de tabagisme (observation de fumeurs, présence de mégots de cigarettes et de cendriers ou d'instruments similaires), à la disponibilité de zones ou de salles réservées aux fumeurs, ainsi qu'à l'affichage et à l'emplacement de panneaux d'interdiction de fumer ont été recueillies par observation directe. Les résultats sont présentés à l'aide de statistiques descriptives.

Résultats : Des observations ont été réalisées dans 1704 lieux publics intérieurs et extérieurs. Dans l'échantillon, 972 (57 %) satisfaisaient à l'indicateur composite évaluant les preuves de tabagisme. Des zones fumeurs désignées ont été observées dans 104 lieux (6 %) et des salles fumeurs désignées dans 16 lieux (1 %). Des panneaux d'interdiction de fumer étaient affichés à l'entrée principale de 104 (6 %) établissements et à l'intérieur de 174 (10 %) établissements.

Conclusion : Le respect des politiques antitabac fait défaut à Karachi. Les organismes chargés de l'application de la loi et les gestionnaires des établissements doivent redoubler d'efforts pour parvenir à une interdiction totale de fumer dans les lieux publics de Karachi.

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