

# Visibility and availability of single cigarettes around schools in four Latin American countries

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► Additional supplemental material is published online only. To view, please visit the journal online (<https://doi.org/10.1136/tc-2024-058852>).

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Received 3 June 2024  
 Accepted 19 September 2024

## ABSTRACT

**Introduction** Single cigarette sales at tobacco-selling points of sale (POS) may promote smoking. We explored visibility and availability of single cigarettes in POS around schools in Argentina, Guatemala, Mexico and Peru, countries where their sale is banned.

**Methods** Between April and July 2023, an observational study was conducted at POS around high schools in urban and rural areas in Argentina, Guatemala, Mexico and Peru. A sampling frame of schools was generated from public registries, with schools categorised according to their socioeconomic status and randomly selected within socioeconomic strata. A total of 2081 POS were surveyed based on their proximity to these randomly selected schools. Data were collected on the visibility of single cigarettes (any cigarette sticks or open cigarette packs on display and able to be seen by customers were coded as visible) and their availability (ie, whether singles were sold, whether visible or not).

**Results** Single cigarettes were visible in 37.2% of POS and available in most (84.9%), with neighbourhood stores the primary source. In most (84.1%) POS with visible single cigarettes, they were displayed near candy or toys. Prices of the cheapest single cigarette sticks ranged from US\$0.03 in Argentina to US\$0.13 in Guatemala.

**Conclusion** The findings indicate widespread availability of single cigarettes in four Latin American countries where their sale is banned. The low price of single cigarettes, and their proximity to candy/toys, may increase the appeal of smoking to youth. Stricter enforcement of bans on single cigarettes, which may serve as a gateway to experimentation and continued smoking, is needed.

## INTRODUCTION

As of January 2024, 183 countries have adopted the Framework Convention on Tobacco Control (FCTC), which aims to minimise tobacco-related harm globally. Article 16 addresses ‘Sales to and by minors’, stating that ‘each party shall endeavour to prohibit the sale of cigarettes individually or in small packets which increase the affordability of such products to minors’.<sup>1</sup> At least 88 countries are reported to have banned the sale of single (or loose) cigarettes.<sup>2</sup> Doing so aims to address concerns that single cigarettes discourage smokers from quitting and encourage young people to start smoking given their accessibility, low price and the absence of on-pack warnings that describe the risks of smoking, all of which may increase the appeal and/or reduce perceptions of harm from smoking.<sup>3–10</sup>

## WHAT IS ALREADY KNOWN ON THIS SUBJECT

⇒ While over 80 countries are reported to have banned the sale of single cigarettes, there is an ongoing issue regarding their availability in low-income and middle-income countries.

## WHAT IMPORTANT GAPS IN KNOWLEDGE EXIST ON THIS TOPIC

⇒ This study involved the collection of data from tobacco-selling points of sale in urban and rural locations across Argentina, Guatemala, Mexico and Peru.  
 ⇒ Single cigarettes, despite being banned, were widely available around schools in all four countries.

## WHAT THIS STUDY ADDS

⇒ There is a dearth of recent research examining the prevalence of single cigarette sales in Latin America.  
 ⇒ That low-cost single cigarettes, which are often in close proximity to candy or toys, appears to be the norm highlights the need for stricter enforcement and punishment for tobacco-sellers breaching laws banning single cigarette sales, which across the four countries include fines, license suspension or revocation, business closure and even jail.

Nevertheless, singles sales have been commonly reported in low-income and middle-income countries in Africa,<sup>11 12</sup> Asia<sup>7 13</sup> and Latin America.<sup>3 14 15</sup> There is a dearth of recent research examining the prevalence of single cigarette sales in Latin America, particularly where their sale is banned.

This study describes the visibility and availability of single cigarettes at points of sale (POS) around schools in Argentina, Guatemala, Mexico and Peru, four upper-middle-income countries in Latin America where their sale is banned.<sup>2</sup> Details of the regulations on single sales in each country (as well as youth access and on-pack warnings) can be found in online supplemental table 1). The aim of this study was to better understand the scale of the problem in these countries, and, therefore, the effectiveness of legislation and current enforcement efforts.

## METHODS

### Design and sample

Between April and July 2023, an observational study was conducted at POS in four cities in Argentina, Guatemala, Mexico and Peru, as part of the



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**To cite:** Chaname E, Limache-García A, Moodie C, et al. *Tob Control* Epub ahead of print: [please include Day Month Year]. doi:10.1136/tc-2024-058852

'REmoving the MARketing Power of cigarettes' project. Four locations were selected within each country to reflect diversity in terms of size and rurality. The target sample was 500 POS per country, 125 POS per city. We identified POS based on their proximity to high schools, so as to capture possible retail exposure among young people. The sampling frame for schools was generated from public domain databases of the Ministries of Education in each country. Each location was divided into geostatistical units appropriate for the country and schools categorised based on their area-level socioeconomic status. Both public and private schools were included, selected within each country to reflect the observed proportions of each type of school. We classified an area as rural if the primary economic activity of that area was agricultural.

### Procedure

To locate POS at each site, schools were used as a starting point. Similar to the Tobacco Pack Surveillance System methodology,<sup>16</sup> with their backs to the main entrance of each school, researchers began to walk preplanned routes, looking for POS in which tobacco was being sold. All the POS were within 400 m of the schools. To record information about each POS, including location, type (formal or informal), interior and exterior tobacco marketing and display of single cigarettes, the team built a codebook based on the literature and piloted it prior to use.

We identified and purchased packs of each cigarette brand variant on the market, and all unique packs (eg, different pack sizes, limited-edition packs, etc) for each variant and recorded the sale of single cigarettes. A POS was coded as having visible single cigarettes if any cigarette sticks or open cigarette packs were on display and able to be seen by customers. Whether visible or not, all vendors were asked the price of the cheapest single cigarette sold. If the vendor gave a price, this was recorded and single cigarettes were coded as 'available'. Data were uploaded to the Kobo Toolbox platform ([www.kobotoolbox.org](http://www.kobotoolbox.org)), which was installed on mobile phones for real-time data collection at each POS. The study received approval from the relevant ethics committees in Argentina, Guatemala, Mexico, Peru and Scotland.

### Analysis

Descriptive analysis of the data was carried out using SPSS V.27. The percentage of each type of POS where single cigarettes were visible and available was calculated for each country and for the sample. Thus, we report, for example, how many neighbourhood stores in a country have single cigarettes visible and what percentage of the total neighbourhood stores in that country this represents.

### RESULTS

Data were collected from 2081 POS (Argentina=512, Guatemala=504, Mexico=506 and Peru=559), with [table 1](#) showing the sample POS characteristics overall and by country. The POS sample was predominantly located in urban areas (72.2%) and areas with medium socioeconomic level (34.9%). More than three-quarters of the POS were neighbourhood stores (77.0%), followed by kiosks (10.9%), convenience stores (5.7%), street vendors (3.3%), supermarkets (1.9%) and service stations (1.2%). Neighbourhood stores cater to the local community with basic, often bulk products, while convenience stores are part of commercial chains that target a wider audience.

Single cigarettes were visible in 37.2% of POS ([table 1](#)), most commonly among street vendors (92.7%) and neighbourhood stores (40.6%). Guatemala had the highest number of POS with

visible single cigarettes (91.3%). For POS where single cigarettes were visible, the vast majority (89.9%) sold single flavour capsule cigarettes. Single cigarettes were available for sale in 84.9% of POS ([table 1](#)), predominantly among street vendors (100%) and neighbourhood stores (91.1%). Peru had the highest number of POS with available single cigarettes (99.3%).

Most (84.1%) POS with visible single cigarettes displayed them near (within 50 cm) candy or toys. Guatemala had the largest proportion of POS with visible singles that were located within 50 cm of candy or toys (92.6%), followed by Argentina (68.3%), Mexico (62.0%) and Peru (7.4%). Prices of the cheapest single cigarette reported by each country ranged from US\$0.03 in Argentina, US\$0.05 in Peru, US\$0.11 in Mexico to US\$0.13 in Guatemala.

### DISCUSSION

We found that despite their illegality, single cigarettes were visible in almost two-fifths of POS in Argentina, Guatemala, Mexico and Peru and available in more than four-fifths. While the FCTC recommends that each Party adopt and implement effective measures to protect against such sales, including penalties against sellers and distributors,<sup>1</sup> this study highlights a lack of enforcement in all four countries. The availability of single cigarettes can potentially have negative implications for public health, as it may increase their affordability, particularly for children and adolescents and the less affluent, for whom the purchase and consumption of single cigarettes is most common.<sup>4 6 12 15</sup> The age of smoking initiation in Argentina, Guatemala, Mexico and Peru typically ranges from 12 to 18 years old (see online supplemental table 1), with research needed to explore the role that access to single cigarettes plays in initiation.

Visibility and availability of single cigarettes was highest in neighbourhood stores, as found in Mexico in 2006.<sup>15</sup> Neighbourhood stores are often deeply rooted in communities, as owners are mostly residents of the neighbourhood.<sup>17</sup> As such, young people may have relatively easy access to single cigarettes because they know the seller. Selling cigarettes individually can also help increase profits, since vendors mostly charge more per stick when sold as singles than by the pack.<sup>8 18</sup> Kiosks and street vendors also contribute to the easy access of single cigarettes.<sup>10 12</sup> Widespread visibility and easy accessibility of single cigarettes have been considered symbols of smoking normalcy, promoting the perception that smoking is socially acceptable.<sup>5 6 9</sup> That single cigarettes do not contain health warnings, except in Canada as a result of a recently implemented policy which requires warnings to be displayed on cigarette filters, further blurs these lines.<sup>7</sup>

We found that visible single cigarettes were often in close proximity to candy or toys. Although there is no evidence that candy or toys were intentionally placed near cigarettes by vendors, this proximity may enhance acceptability for young people. Previous research suggests that having single cigarettes sold near candy or toys may make cigarettes and smoking seem more desirable and less harmful.<sup>3</sup> Research exploring adolescents' perceptions of single cigarettes, and whether these perceptions are influenced based on their relation to toys or candy, would be of value.

Our findings show high non-compliance with laws prohibiting the sale of single cigarettes in each of the four countries (see online supplemental table 1) and that little has changed in this respect over the last 15 years.<sup>3 14 15</sup> The availability and affordability of single cigarettes can attract youth to smoking while offering tobacco companies a marketing advantage, particularly for promoting new brands such as capsule cigarettes. The four countries studied have high market share of flavour capsule

**Table 1** Characteristics of points of sale in Argentina, Guatemala, Mexico and Peru and visibility/availability of single cigarettes\*

	Argentina	Guatemala	Mexico	Peru	Total
	n (%)	n (%)	n (%)	n (%)	n (%)
Sample characteristics					
Area					
Rural	132 (25.8)	250 (49.4)	132 (26.2)	64 (11.5)	683 (32.8)
Urban	380 (74.2)	256 (50.6)	372 (73.8)	495 (88.6)	1503 (72.2)
Socioeconomic level					
Low	170 (33.2)	250 (49.6)	91 (17.9)	140 (25.0)	651 (31.3)
Medium	184 (35.9)	87 (17.3)	144 (28.5)	311 (55.6)	726 (34.9)
High	158 (30.9)	169 (33.5)	269 (53.2)	108 (19.3)	704 (33.8)
Type of point of sale					
Street vendor	0	24 (4.7)	33 (6.6)	11 (1.9)	68 (3.3)
Convenience store	12 (2.3)	17 (3.4)	64 (12.7)	26 (4.7)	119 (5.7)
Service station	13 (2.5)	10 (1.9)	0	2 (0.4)	25 (1.2)
Kiosk	166 (32.4)	4 (0.8)	28 (5.6)	29 (5.2)	227 (10.9)
Neighbourhood store	306 (59.8)	439 (86.8)	367 (72.8)	491 (87.8)	1603 (77.0)
Supermarket	15 (2.9)	12 (2.4)	12 (2.4)	0	39 (1.9)
Visibility of single cigarettes within each type of point of sale, by country and overall					
Street vendor	0	22 (91.7)	33 (100.0)	8 (72.7)	63 (92.7)
Convenience store	0	5 (29.4)	1 (1.6)	2 (7.7)	8 (6.7)
Service station	0	0	0	0	0
Kiosk	23 (13.9)	4 (100.0)	18 (64.3)	8 (27.6)	53 (23.4)
Neighbourhood store	58 (19.0)	431 (98.2)	98 (26.7)	63 (12.8)	650 (40.6)
Supermarket	1 (6.7)	0	0	0	1 (2.6)
Total	82/512 (16.0)	462/506 (91.3)	150/504 (29.8)	81/559 (14.5)	775/2081 (37.2)
Availability of single cigarettes within each type of point of sale, by country and overall					
Street vendor	0	24 (100.0)	33 (100.0)	11 (100.0)	68 (100.0)
Convenience store	7 (58.3)	16 (4.1)	1 (1.6)	25 (96.2)	49 (41.2)
Service station	2 (15.4)	10 (100.0)	0	2 (100.0)	14 (56.0)
Kiosk	137 (82.5)	4 (100.0)	26 (92.9)	29 (100.0)	196 (86.3)
Neighbourhood store	236 (77.1)	415 (94.5)	285 (77.7)	488 (99.4)	1424 (91.1)
Supermarket	3 (20.0)	11 (91.7)	1 (8.3)	0	15 (38.5)
Total	385/512 (75.2)	480/506 (94.9)	346/504 (68.7)	555/559 (99.3)	1766/2081 (84.9)

\*Single cigarettes include flavour capsule cigarettes, which are cigarettes with capsules in the filter that can be burst to change the flavour.

†Percentages reflect the proportion of each type of point of sale where single cigarettes were visible or available.

cigarettes (between 20% and 35% of cigarette sales),<sup>19</sup> with 9 in 10 POS with visible single cigarettes having single flavour capsule cigarettes, thus providing youth cheap access to flavoured tobacco.<sup>19</sup> As such, stricter enforcement should be high on the agenda to prevent such sales, providing a potential gateway into smoking and continued use.

Our sample was relatively large and covered urban and rural areas in each of the four countries, but the samples are not nationally representative and, while reflecting the tobacco-selling POS encountered in the different locations, included a very large number of neighbourhood stores. Despite literature suggesting that street vendors are often a key source of single cigarettes,<sup>10 12</sup> data collection near schools was insufficient due to their limited presence. The timing of data collection may have influenced the number of street vendors captured, as they often operate at specific times near schools, when students are arriving and departing.<sup>20</sup> While our focus was on visibility and availability of single cigarettes at POS, it is important to better understand the impact of this on youth trial and continued used, and how enforcement can be improved.

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**Contributors** EC, AL-G and AZ contributed to the conceptualisation, data collection, data analysis and interpretation and final revision of the manuscript. EC wrote the first draft of the manuscript. CM, JT and CB contributed to edits, interpretation and final revision of the manuscript. CM is responsible for the overall content as guarantor. REMAP Team: scientific advisors for the manuscript, collected data.

**Funding** This work is part of the 'REmoving the MArketing Power of cigarettes' (REMAP) project, funded by the Medical Research Council (MR/X004279/1).

**Competing interests** None declared.

**Patient consent for publication** Not applicable.

**Ethics approval** Not applicable.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** Data will be available for sharing, on reasonable request, when all planned articles are published or in August 2025.

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