

Advertising and Sales of Tobacco Products on Digital Delivery Platforms

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Publicidade e Venda de Produtos de Tabaco em Plataformas Digitais de Delivery

Publicidad y Venta de Productos de Tabaco en Plataformas Digitales de Delivery

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ABSTRACT

Introduction: With the SARS-CoV-2 virus pandemic in Brazil, the marketing of online products has grown significantly through digital delivery platforms for several products. Studies show that social isolation measures have had effects on the behavior and health of individuals, including smoking increase. **Objective:** Evaluate the characteristics of the sales and advertising of tobacco products and electronic smoking devices by physical stores through three digital platforms operating in the State of Rio de Janeiro between February and June 2021. **Method:** The searches on the platforms simulated the purchase steps of a consumer through a social network. The points of sale were georeferenced from administrative regions of the municipality of Rio de Janeiro or from a central point in other cities of the State. The georeferenced results were crossed with social indicators to characterize the consumer public. In addition, sales prices were compared with information from the Brazilian Internal Revenue Service. **Results:** The results indicate the practice of illegal sale of these products on the digital platforms investigated. In high-standard socioeconomic regions, greater number of physical points of sale that adhered to the delivery platforms services were identified. The values charged were 83% higher than those found in the Internal Revenue Service. **Conclusion:** The study highlights the necessity to review the actions of compliance bodies to control the new modalities of tobacco products sales.

Key words: control and sanitary supervision of tobacco-derived products; tobacco-derived products publicity; e-commerce; geographic mapping.

RESUMO

Introdução: Com a pandemia do vírus Sars-CoV-2 no Brasil, a comercialização de produtos on-line cresceu significativamente por meio de plataformas digitais de *delivery* de produtos de diversos gêneros. Estudos mostram que as medidas de isolamento social acarretaram efeitos no comportamento e sobre a saúde dos indivíduos, incluindo o aumento do tabagismo. **Objetivo:** Avaliar as ocorrências e características da venda e publicidade de produtos de tabaco e de dispositivos eletrônicos para fumar, realizadas por lojas físicas, por meio de três plataformas digitais que atuam no Estado do Rio de Janeiro, entre fevereiro e junho de 2021. **Método:** As buscas nas plataformas simularam a jornada de compra de um consumidor por intermédio de uma rede social. Os pontos de venda foram georreferenciados a partir de centros de regiões administrativas do município ou de um ponto central nas demais cidades do Estado. Os resultados do georreferenciamento foram cruzados com indicadores sociais para caracterizar o público consumidor. Além disso, os preços de venda foram comparados com as informações da Secretaria de Receita Federal. **Resultados:** Os resultados indicam a prática de venda ilegal desses produtos nas plataformas digitais pesquisadas. Em regiões com padrões socioeconômicos mais altos, foi identificado um maior número de pontos de venda físicos que aderiram aos serviços das plataformas de *delivery*. Os valores praticados nessa modalidade foram 83% superiores aos estabelecidos pela Receita Federal. **Conclusão:** O estudo revela a necessidade de uma revisão das ações dos órgãos de fiscalização para o controle das novas modalidades de venda de produtos de tabaco.

Palavras-chave: controle e fiscalização de produtos derivados do tabaco; publicidade de produtos derivados do tabaco; comércio eletrônico; mapeamento geográfico.

RESUMEN

Introducción: Con la pandemia del virus Sars-CoV-2 en Brasil, la comercialización de productos creció significativamente a través de plataformas digitales de entrega de productos de diversos géneros. Los estudios muestran que las medidas de aislamiento social han tenido efectos en el comportamiento y la salud de las personas, incluido un aumento en el tabaquismo. **Objetivo:** Evaluar las ocurrencias y características de la venta y publicidad de productos de tabaco y dispositivos electrónicos para fumar realizadas por tiendas físicas a través de tres plataformas digitales que operan en el Estado de Río de Janeiro, entre febrero y junio de 2021. **Método:** Las búsquedas en las plataformas simularon los pasos de compra de un consumidor a través de una red social. Los puntos de venta fueron georreferenciados desde centros en regiones administrativas del municipio o desde un punto central en otras ciudades del Estado. Los resultados de la georreferenciación se cruzaron con indicadores sociales para caracterizar al público consumidor. Además, los precios de venta se compararon con información del Servicio de Ingresos Federales. **Resultados:** Los resultados indican la práctica de venta ilegal de estos productos en las plataformas digitales encuestadas. En las regiones con mayor nivel socioeconómico, se identificó una mayor cantidad de puntos de venta físicos que adhirieron a los servicios de plataformas de entrega. Los valores practicados en esta modalidad fueron 83% superiores a los establecidos por la Receita Federal. **Conclusión:** El estudio destaca la necesidad de una revisión de las acciones de los órganos de control para el control de las nuevas modalidades de venta de productos del tabaco.

Palabras clave: control y fiscalización de productos derivados del tabaco; publicidad de productos derivados del tabaco; comercio electrónico; mapeo geográfico.

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INTRODUCTION

Smoking is the main avoidable cause of deaths worldwide, it is one of the major risk factors for the development of non-communicable diseases as cancers, heart and cerebrovascular diseases¹ and is also referenced as a pediatric disease². Among Brazilian young adults, the mean age of regular use of tobacco products is 16 years old³, and 80% of regular smokers start smoking before 19 years of age. In 2015 alone, the epidemic accounted for 147,072 deaths in Brazil, 75,663 strokes and 63,753 diagnoses of cancer⁴.

Several studies have been consistently revealing that the exposure to tobacco advertising increases the odds of adolescents to start smoking⁵⁻¹¹. This fact together with the raising law-enforced advertising restrictions in the media may potentially increase the offer on the Internet.

Because of the COVID-19 pandemic in the last two years, sales on the Internet grew approximately 21% in comparison with 2018. The health crisis gave rise to the migration of the user to the virtual environment and acceleration of the digital process the companies have speedily embraced to minimize the negative impacts on in-store transactions¹².

The broadening of the new dynamic of virtual commerce pushed by the pandemic and social distancing for a longer period caused unwanted effects over the behavior and health of the individuals, including smoking indexes. A recent study¹³ revealed that 34% of the Brazilian smokers increased tobacco use in this period.

The threat this new format of offer and demand has on public health is the base the present study utilized to identify the reach of e-commerce of tobacco products and electronic smoking devices (ESD) through delivery platforms and the profile of the potential user. The radius of the points of sale of these products were georeferenced and later double-checked with the available socioeconomic indicators. In addition, the points of sale were compared with the data of the Internal Revenue Service (IRS). At last, data about the additional irregularities of the offer such as absence of health warns, ads of tobacco industry, tie-in sale and single cigarette sale were collected. These are the challenges Brazil needs to cope with as part of its responsibility to comply with the World Health Organization Framework Convention on Tobacco Control (WHO – FCTC)¹⁴. So far, no comprehensive evaluation about the relation of points of sale of tobacco and ESD through delivery platforms has ever been found.

METHOD

Initially, the parameters of the study's space range, the selection of the delivery platforms and keywords for the

search were defined. Rio de Janeiro was chosen as field of observation due to its proximity to the investigators and familiarity with the urban space in addition to municipalities which portray diverse social, economic and geographic profiles. The central area of the administrative regions of Rio de Janeiro was selected as delivery address for the mock purchase and for the other municipalities, the central areas were chosen.

The second parameter was the delivery platforms. The three main platforms working in the state are *iFood*, *Rappi* and *UberEats* due to the capacity and spatial reach. Currently, *iFood* is the biggest food delivery platform offering the user menus, prices and modalities of payment in thousands of restaurants, bakeries, newsstands, tobacco stores and beverages warehouses¹⁵. *Rappi*¹⁶ established businesses since 2017 delivering any product (*multi-delivery*) quickly in addition to the offer of courses and services. *UberEats*¹⁷ is a platform developed in USA, they affirm they make “digital intermediation, demand preview, payment processing and other services related to meals and/or products”.

The names of the tobacco products most consumed by the Brazilians and identified during the process of designing the study were the initial base to choose the keywords for the search as: cigarette, cigar, pipe, hookah and e-cigarette. However, during this process, a strategy that the points of sale utilized to circumvent the traditional modalities of search was identified: the substitution of letters by symbols and words written in unusual forms as “*C1g@rro*” and “*K3nt*” (cigarette brand Kent). It was necessary to adjust the keywords to produce more comprehensive results and eventually the following list came up: cigarette, cigar, pipe, hookah, tobacco, electronic cigarette, vape, essences, e-juices, e-cig, Juul, Nikbar, Cig, C1g, K3nt, M@rlboro, N@rguile, tobacco, *седа*, *седа*, Blue, Red and Gold.

After defining the field and method of search, a mock purchase process by a potential user was made from February to June 2021 following the steps: (1) the investigator accessed the platform through a computer (not mobile-based app); (2) the register was tied to the personal account on *Facebook* (personal data are auto-filled); (3) delivery address according to the parameters earlier established; (4) utilization of the keywords listed; (5) acceptance of the product, the price and freight costs in each one of the shops found. The purchase was not finalized because the goal of the study was to find if the tobacco products and ESD were available, detect the strategies utilized and the geographical scope of the offer.

The points of sale of any and every physical shop which had adhered to online platform were included. After the identification of the points of sale which offered these

products on the platforms it was possible in some cases to find profiles of the same vendor in different platforms that were accounted separately since a point of sale can stop selling through a platform but continue in another one. In this case, the point of sale was accounted from one to three times.

Taking as reference the website of *Rappi*¹⁶, the physical range of the delivery services may cover from five to 11 km from the point of sale. The investigators determined a 7-km radius to map the reach of the sale with a moderate profile of investigation.

The user's profile of these platforms was identified after the data were compiled. The data were double-checked with two social public indexes: the Social Progress Index (SPI) of the city of Rio de Janeiro and the Municipal Human Development Index (MHDI), the latter not addressed in the current study. The SPI¹⁸ was chosen from the available databases at Rio de Janeiro City's portal according to administrative regions and neighborhoods of 2010 to evaluate the spatial design of the points of sale¹⁸. Its goal is to calculate the level of social progress of a certain geographical area compared to similar areas. The utilization of a census tract, the smaller geographical area with statistical data, allows the identification of interurban differences in the City of Rio de Janeiro, which is one of its leverages. The scores range from zero (worst parameter) to one (best parameter).

Likewise, according to the National Legislation¹⁹, the Treasury Department through the IRS is responsible for putting together a list of cigarette prices to be practiced countrywide by brands and States²⁰, which is the base to collect the tax on industrial products (*IPI*). The prices practiced in Rio de Janeiro were compared to the IRS²⁰ cigarette prices list to evaluate if the prices at the delivery platforms were lower, higher or equal. Nineteen legitimate products, one of each profile offered by the points of sale at the platforms were selected; ESD, products tied-in to other products and single cigarette sale were excluded.

The methodology adopted attempted to identify irregularities of the offer and sale of tobacco products but did not quantify or analyze thoroughly these flaws due to the ample scope of this type of analysis. Regarding social indicators, only tiers of SPI were assessed and comparisons among occurrences more or less frequent detected in the neighborhoods in each tier of SPI were not addressed, a similar decision in relation to the irregularities of the offer and sale of traditional cigarettes and ESD.

The review by the Institutional Review Board was waived because only deidentified secondary data were utilized in compliance with Resolution 466 of December 12, 2012 of the National Health Council (CNS)²¹.

RESULTS

POINTS OF SALE ON DIGITAL PLATFORMS AND RANGE OF DELIVERY

In the State of Rio de Janeiro, 49 profiles of points of sale offering tobacco products and/or ESD were identified, mostly concentrated on the capital (Table 1): 34 offered by *iFood*, eight, by *Rappi* and seven, by *UberEats*.

The offer and delivery of tobacco products and/or ESD occur in the entire city of Rio de Janeiro with overlapping areas of action of the points of sale. The analysis of the adjacent cities revealed a reduction of the points of sale, however, the spatial range of the existing points of sale are able to cover a large portion of these cities as is the case of Niterói, São Gonçalo, Duque de Caxias, Nilópolis, São João de Meriti, Mesquita, Volta Redonda and Teresópolis.

RELATION BETWEEN THE GEOGRAPHICAL DISTRIBUTION OF POINTS OF SALE AND THE SOCIAL PROGRESS INDEX

In the municipality of Rio de Janeiro, 32 points of sale utilizing delivery platforms were identified, distributed in 13 administrative regions and 20 neighborhoods. The municipality's administrative regions are classified according to the SPI from 0.493 to 0.763, but in certain administrative regions, no physical points of sale offering tobacco products and/or ESD through delivery platforms were found. Therefore, the points of sale were divided in three tiers that could be closer to the points of sale identified in the administrative regions to facilitate the analysis as shown in Table 2: (1) between 0.533 and 0.591; (2) between 0.627 and 0.697 and (3) between 0.730 and 0.763.

Six points of sale were identified in the first tier of SPI distributed in four administrative regions and four neighborhoods. The second tier of SPI had 15 points of sale distributed in six administrative regions and nine neighborhoods and 11 points of sale were found in the third tier of SPI distributed in three administrative regions and six neighborhoods. In the first tier of SPI the mean of points of sale per administrative regions and neighborhoods was similar, 1.5, covering the administrative regions of Anchieta, Madureira, Penha and Rocinha. The second tier of SPI – administrative regions of Barra da Tijuca, Centro, Ilha do Governador, Méier, Tijuca and Vila Isabel – a mean of 2.5 points of sale per administrative region and 1.6 points of sale per neighborhood were identified. For the third tier of SPI which covers the city's South Zone, a mean of 3.6 points of sale per administrative region or 1.57 points of sale per neighborhood was detected.

CHARACTERISTICS OF ADVERTISING AND SALE OF TOBACCO PRODUCTS

In general, the products are presented across different platforms as inserts/displays showing the packages and prices as Figure 1 shows.

Table 1. Points of sales on delivery platforms in the State of Rio de Janeiro – municipalities, neighborhoods and platforms

Municipalities	Neighborhoods	Platforms			Number of profiles
		iFood	Uber Eats	Rappi	
Duque de Caxias	Vila Itamarati	X			1
Mesquita	Centro	X	X		2
Nilópolis	Olinda	X			1
Niterói	Centro	X			1
	Icaraí	X			1
	Ingá			X	1
	Fonseca		X		1
Rio de Janeiro	São Conrado	X			1
	Parque Anchieta	X			1
	Vaz Lobo	X			1
	Penha	2X			2
	Ilha do Governador	X			1
	Todos os Santos	X			1
	Centro	2X			2
	Joá	X			1
	Barra da Tijuca	X		4X	5
	Recreio dos Bandeirantes	X			1
	Itanhangá	X			1
	Andaraí	X			1
	Praça da Bandeira		X		1
	Copacabana	3X		X	4
	Botafogo	X			1
	Catete	X			1
	Laranjeiras			X	1
	Lagoa		X		1
	Jardim Botânico	X			1
	Gávea	X			1
Riachuelo	X			1	
Leblon	X	X		2	
Rio das Ostras	Cidade Praiana	X			1
São Gonçalo	Boaçu		X		1
	Porto Novo	2X			2
São João de Meriti	Barro Vermelho		X		1
	Coelho da Rocha	X			1
Saquarema	Bacaxá			X	1
Teresópolis	Bairro Alto	X			1
Volta Redonda	Aterrado	X			1
Total					49

Several irregularities as images of cigarette packs together with lighters and chewing gums were detected with the purpose of joint sales. Other tobacco products as straw cigarettes (tobacco leaves rolled up in corn husks) and accessories for hookah and single cigarette sales were also identified. Health warn images other than the approved by the Brazilian Health Regulatory Agency (ANVISA) and worded in foreign languages were also found.

SALE OF ESD

The study identified the sale of these devices and offer of accessories as e-juices (capsules with liquid and flavored nicotine to produce smoke and absorption of vaporized nicotine) as shown in Figure 2.

LINK WITH FACEBOOK ACCOUNT AND ADVERTISING IN SOCIAL MEDIA

During the user purchasing process, after repeated searches on the platforms, ads of sponsored tobacco

Table 2. Distribution of neighborhoods and administrative regions with points of sale in Rio de Janeiro according to SPI

SPI	Neighborhoods	Administrative Region	
Tier 1 (0.533-0.591)	0.533	São Conrado	Rocinha
	0.533	São Conrado	Rocinha
	0.575	Parque Anchieta	Anchieta
	0.590	Vaz Lobo	Madureira
	0.591	Vila da Penha	Penha
	0.591	Vila da Penha	Penha
Subtotal	4	4	
Tier 2 (0.627-0.697)	0.627	Zumbi	Ilha do Governador
	0.629	Todos os Santos	Méier
	0.643	Centro	Centro
	0.643	Centro	Centro
	0.643	Centro	Centro
	0.676	Joá	Barra da Tijuca
	0.676	Barra da Tijuca	Barra da Tijuca
	0.676	Barra da Tijuca	Barra da Tijuca
	0.676	Barra da Tijuca	Barra da tijuca
	0.676	Barra da Tijuca	Barra da tijuca
	0.676	Barra da Tijuca	Barra da tijuca
	0.676	Recreio dos Bandeirantes	Barra da tijuca
	0.676	Itanhangá	Barra da tijuca
	0.679	Andaraí	Vila Isabel
0.697	Praça da Bandeira	Tijuca	
Subtotal	9	6	
Tier 3 (0.730-0.763)	0.730	Copacabana	Copacabana
	0.735	Botafogo	Botafogo
	0.735	Catete	Botafogo
	0.735	Laranjeiras	Botafogo
	0.764	Lagoa	Lagoa
	0.764	Jardim Botânico	Lagoa
0.764	Leblon	Lagoa	
0.764	Leblon	Lagoa	
Subtotal	7	3	
Total	20	13	

products started to pop up on the respective Facebook account profile which was utilized in the study. The term “sponsored” means boosted post available for companies on Facebook. In the case of dynamic search ads, a paid modality on Facebook, it is stated that “Whenever a buyer shows interest in a catalogue item, a targeted ad is generated automatically for this individual and will appear on its mobile, tablet and desktop”²².

**Figure 1.** Example of irregular offer of cigarette on delivery platform**Figure 2.** Example of irregular sale of ESD on delivery platforms

DIFFERENCE BETWEEN THE PRICES PRACTICED ON THE ON-LINE DELIVERY PLATFORMS AND THE IRS LIST

It was possible to notice that of the legitimate tobacco products selected, one of each profile found on the platforms according to the description in Methods, the prices practiced by the points of sale on the delivery platforms were in average 83% higher than the IRS list²⁰, excluding the freight costs. Graph 1 shows the results.

DISCUSSION

Based on the georeferenced points of sale offering tobacco products and/or ESD, it was found that the sale in a city through delivery platforms expands the range of



Graph 1. Prices found on online delivery platforms versus minimum prices determined by the IRS

action of the point of sale, increasing the negative impact of the irregular sale and advertising. It was also possible to identify that the consumer's market usually extends to the adjacent cities mostly as a result of the expansion of the spatial range of action.

The consumer profile was devised after taking the administrative regions as reference to detect possible delivery points in the city and crossing the data with the SPI available; it was found that the regions in the upper tiers of SPI had more points of sale with high offer of tobacco products and ESD according to the mean calculated, consequently. For regions with higher socioeconomic standards it was noticed that the points of physical commerce attempted to adhere to delivery platforms to boost the sales for these residents.

The prices practiced by the points of sale are 83% higher in average than the IRS list, which reinforces this information²⁰. The final price to the consumer including freight costs was not utilized in the analysis due to the possible variations of prices at each point of sale according to the delivery area, different prices practiced by the delivery platforms and potential dilution of the cost if the consumer buys not only the pack but other products of an online purchase products basket. The higher prices compared with the IRS list strengthens the idea that the consumers of these products have a higher socioeconomic profile.

Since 2003²³ the Brazilian Health Regulatory Agency (ANVISA) banned the national offer and sale of any tobacco product on the Internet. It is evident that the offer of these products on delivery platforms challenges this rule. Irregularities of health warns about tobacco harms that must be printed on packs were found while data were being collected, including its full absence and the text worded in a foreign language, which apparently suggests the sale of unauthorized products by ANVISA.

Additionally, ANVISA bans any modality of advertising – any form of disclosure to the public, whether or not a user, electronically, including Internet, printed or others – that promotes, disseminates or sponsors tobacco products²⁴.

Most of the offer posts, as the study identified, had at least one element that could be construed as advertisement, either through a reference to the brand or the product or the display of the label through the image of the pack.

The sale of a single cigarette was found too; the legal determination to trade cigarettes only in packs or other similar packaging is to ensure that young adults and low-income individuals encounter obstacles (price) to buy these products, for instance, and due to the necessity of displaying health warns with information about tobacco-related harms²⁵. This practice, nevertheless, is usual in physical stores as well.

Another infringement identified was the association of tobacco products and sweets. According to Turci (*apud* Vargas²⁶), “since advertising ban on points of sale, the industry is utilizing a robust strategy: utilization of attractive and luminous displays – near candies and sweets and flavors added to tobacco products – in an attempt to lure young adults”. ANVISA determines that tobacco products must be displayed on physical stores as far as possible from candies, gums, chocolate candies, ice creams and toys to avoid the exposure to children and adolescents.

It was possible to notice the offer of combos associating tobacco with candies and sweets. The profile of the physical store on the delivery online replicates the practice and attempts to associate tobacco products with sweets and candies by depicting images on the same page or the joint sale.

Besides the irregularities identified in sales and advertising of legitimate products on the Internet, the initiative of advertising, disseminating and selling ESD banned nationwide was identified²⁷ and includes electronic cigarette, vapers, heated tobacco products, in addition to accessories and refills.

According to Sampaio and Tavares²⁸, the social media is powerful enough to influence the user's decision to buy through online advertising also utilized to gather information and establish a contact, being Facebook the strongest social media influencer of the purchase decision. In 2020, Facebook was the top social media most utilized worldwide²⁹, reaching a universe of 1.95 billion persons who said they were impacted by the network ads. In addition, Brazil is ranked fourth in the global list of countries with high potential of Facebook's advertising impact with 120 million users, below only of India, USA and Indonesia.

This platform-sponsored advertising action visible on the Facebook's personal webpage of the investigator was found only in *iFood*. In its terms and conditions³⁰, it is stated that *iFood* utilizes only restaurants and users registered to deliver food products and does not mention tobacco products. Consequently, the sale of these products

was not listed in its objectives, much less its advertising in social medias of great impact among young adults.

In this case, the irregularity could be characterized as solidary responsibility since the physical point of sale advertises a banned product on a delivery platform and the latter advertises it on the social media.

CONCLUSION

Irregular sales of tobacco products and ESD are in motion through the delivery platforms across the State of Rio de Janeiro and there are indications that the traditional points of sale which offer delivery sales are concentrated in the municipality of Rio de Janeiro, mainly in high-income regions. This may guide the inspection entities to focus their actions to points of sale in the capitals, mainly in regions classified in higher SPI tiers. These sales are a clear violation of article 13 of the WHO/FCTC which addresses the advertising, promotion and sponsoring of tobacco products and of several resolutions of Anvisa.

These platforms do not check the age of the buyers, another clear violation of article 16 of the WHO/FCTC as the present study identified. It was also found that the points of sale are adopting strategies to circumvent the inspection through the use of non-alphabetic characters and offer the products.

The prices practiced by the traditional points of sale which also offer online products at delivery platforms are 83% higher in average than the IRS list.

Advertising and promotion of tobacco products were also found on the *IFood* platform on Facebook as the illegal sale of common tobacco products in physical points of sale and replicating on online platforms, for instance, sale of a single cigarette and tobacco products associated with sweets and candies.

This comprehensive evaluation has the potential to collaborate with public policies focused to health, commercial and tax violations and for the development of tools and protocols to ban illegal practices. It also emphasizes the necessity of creating measures to hold the parties accountable for promoting, advertising and sponsoring tobacco products, due to the potential harm to public health the irregularities may cause. These measures should be implemented to restrain commercial and advertising practices of the products on delivery platforms, among them the identification of the content of the ads and rejecting their publication.

CONTRIBUTIONS

João Ricardo Rodrigues Viegas, André Salem Szklo, Beatriz Maciel Pontes and Felipe Lacerda Mendes

contributed substantially to the study design, acquisition, analysis and interpretation of the data, wording and critical review. Kauã Henrique Ribeiro Assunção contributed to the acquisition, analysis and interpretation of the data. All the authors approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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