

Mapping the Tobacco Retailers in Edirne, Turkey

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ABSTRACT

Objective: The youth smoking rate is on the rise in Turkey. Although many marketing bans have been effectively implemented, regulations related to retail tobacco outlets have gone unnoticed and have not been effectively supervised. In this study, we aimed to show the lack of legal regulation related to the high retail tobacco outlet density with displays.

Material and Methods: In the center of Edirne, the marketing environment, numbers and geographical distribution of retail tobacco outlets were documented and mapped with geographical positions.

Results: There were 569 retail tobacco points of sale in 520 stores. We calculated one tobacco retail outlet per 270 people. This retail outlet density rate is above the national average and about four times higher than the density in Istanbul. Products especially attracting children, such as chocolate, sweet candy and chewing gum, were set up near the tobacco stands and were easy for children to recognize and reach. It can be seen on the city map that 47% of retail tobacco outlets are within 100 m of education, health or sport facilities.

Conclusion: We concluded that one of the reasons for the increasing prevalence of cigarette use, especially among adolescents in Turkey, is deregulation of the retail tobacco marketing industry as a result of the privatization process of the national tobacco monopoly. Using mapping techniques can be useful in terms of controlling the retail marketing environment.

Key Words: Tobacco retail, advertising and promotion, public policy, denormalization, environment, globalization

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Introduction

Every year in Turkey, approximately 100,000 people die due to diseases related to tobacco use. In spite of this fact, 31.2% of people aged 15 years or older, or roughly 16 million people, smoke tobacco (1). Although adult use has declined in recent years, the incidence of tobacco use among teenagers and children is on the rise. According to the results of the Global Youth Tobacco Survey, 8.4% of students (10.2% of boys and 5.3% of girls) smoked cigarettes in Turkey in 2009. However, according to the results of the same study in 2003, the percentage was 6.9% (9.4% of boys and 3.5% of girls) (1). The increase in the smoking rate in girls is evident.

One of the main reasons for the epidemic of tobacco use is tobacco industry activities in terms of advertisement, promotion and sponsorships. According to the Turkish Tobacco Control Law, 4207, direct or hidden tobacco ads have been forbidden since 1996. Additionally, Turkey ratified the Framework Convention on Tobacco Control (FCTC) Treaty in 2004, which states that advertisement, promotion and sponsorship bans of tobacco are among the major measures according to the FCTC. Although many bans of advertisements, promotions and sponsorships are effectively put into practice,

regulations related to retail tobacco outlets have gone unnoticed and have not been effectively supervised. In fact, it has become deregulated in many ways. Point-of-sale advertising arouses interest in consumers and potential consumers and is known to play an important role for tobacco companies, especially in countries where the tobacco advertisement bans are effective (2). It has been proven that tobacco point-of-sale tactics influences smoking initiation by youth, prevents smoking cessation and increases the return to smoking by ex-smokers; therefore, it is warranted to regulate point-of-sale practices (3, 4). The current Turkish legislation stipulates that "the sale of tobacco products is strictly forbidden in places where services for health, education, culture and sport are provided" (5), but we believe that this is not enough to protect public health.

The use of cadastral mapping, or geographic information systems, provides substantial benefits in surveillance, planning and monitoring problems and/or facilities related to community health and displaying and analysis of data (6, 7). The Tobacco Atlas¹, the foremost source on the topic of tobacco, considers mapping as one of the most powerful weapons for tobacco control.

Our aim in the present study was to document the retail tobacco market practices in terms of point-of-sale ad-

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vertising, numbers and distribution of licensed retail tobacco outlets with geographical position in relation to educational, health and sport facilities.

Material and Methods

Data were primarily acquired from two sources: i) all of the city streets were visited and retail tobacco outlets and their marketing tactics were documented and ii) licensed retail tobacco stores were visited and positioned geographically, mapped and analyzed on maps.

Visiting and documenting tobacco retailers

Three separate teams, each of them composed of at least two university students, searched for retail tobacco stores on foot, riding a bicycle or driving an automobile according to road distance, between April and June in 2009. The teams documented the name of the location, its connection with health, education and sport facilities and the characteristics the sale displays. Observers were asked to note the names and addresses of retail cigarette outlets, the primary purpose of the service (supermarket, petrol station, restaurant, etc.), the characteristics of the sale booths such as whether children could access the location easily, whether they had illuminated advertising, if they observed the sale of cigarettes to children under the age of 18, whether they had employees under the age of 18 and whether they observed the sale of cigarettes one by one or illegal cigarettes without banderoles. Each store was visited only once.

Mapping and determining geodetic positions of retail tobacco outlets

The list of canteens, shops, supermarkets, nightclubs, gas stations, etc. licensed for selling retail tobacco products was provided by the Edirne Chamber of Commerce between January and June in 2010. Licensed retail stores on the list were visited by experts on mapping. The exact locations of the stores were recorded by determining the approximate geodetic position with a Magellan GPS device, a high-sensitivity receiver with a sensitivity of $\pm 5\text{-}10\text{m}$. Coordinates acquired with GPS were transformed to the national coordinate system. A map of 1/1000 scale showing the entire parcel numbers and house numbers that constituted the municipality of Edirne was digitally transformed with Netcad™ software. All retail tobacco stores, health institutions and organizations (private and state hospitals, community health centers), educational institutions and sport facilities were mapped according to their GPS locations. Special marks were used on the map: educational institutions were marked in pink, health institutions in green, sport facilities in blue, retail tobacco outlets as two black circles, one within the other, while large stores with multiple points of sale had multiple circles within each other and retail tobacco outlets without a license were red with multiple circles within each other. Education, health and sport facilities, which should have been 100 m away from retail stores according to previous legislation that expired after the privatization of the National Tobacco Monopoly, were mapped as exclusion zones.

Results

Empirical and qualitative findings

It was found that retail tobacco stores included canteens, shops, supermarkets, shopping centers, sellers of dried nuts and fruits, restaurants, cafes, night clubs, cafeterias, charcuteries and gas stations. Photographic documentation was limited as sellers were opposed to having photographs taken. It was found out seven 7 retailers were out of the city center limits, 10 retail outlets were closed and 520 retail tobacco outlets were active out of 537 licensed outlets. The total number of retail points was 569 including shopping centers. No retailers were found without a license. Three licensed retailers had only illuminated advertising displays without selling tobacco. It was found that sales stands (booths) were mostly illuminated, charming and as interesting as if they had illuminated advertising even at small selling points. The sales stands were easy for children to reach and there were attractive products for children such as chocolate, sweet candy and chewing gum near tobacco stands (Figure 1). Observers witnessed the sale of cigarettes to children under the age of 18 in almost half of the retail stores, despite making only one visit. The observers also noted employees under the age of 18 at two of the retail outlets. They did not witness the individual sale of cigarettes one-by-one nor did they find any smuggled cigarettes during the site visits. However, it was noted that in a few situations, people witnessed the sale of cigarettes one-by-one, especially at selling points around schools. The tobacco sales stand of a retailer was out of view and the seller indicated that he did it consciously so as not to promote the sale of cigarettes. According to the remarks of observers, almost 41% of selling points were 100 m or closer to education, health or sport facilities.

Geodetic positioning of tobacco retailers

According to the retailer list from the city authority, there were 520 retail tobacco outlets currently active. Shopping centers had only one license, but had multiple sales stands and point of displays. When sale stands were counted individ-



Figure 1. An example of a tobacco "powerwall" set up with goods for children such as chocolate, candy, chewing gum, etc

ually, the total number of retail tobacco point was 569. They are shown as black points on the map (Figure 2). The density of retail tobacco outlets was much greater in the city center than any other place. According to the map, almost half of the outlets were within the 100 m exclusion zone. Retail tobacco stores within the 100 m zone were counted and the results were shown in Table 1. It was found out that 47% (268 out of 569) of the retailers were within 100 m of education, health or sport facilities. Of these, 69% tobacco retailers were close to education facilities, 25% of them were close to health facilities and 6% of them were close to sport facilities out of 268 selling points within the 100 m zone.

Discussion

Most importantly, this study documented that 47% of retail tobacco outlets are within 100 m of education, health or sport facilities in Edirne. In other words, the licenses of 47% of selling points should be cancelled according to the legislation that existed before retail tobacco market deregulation occurred in Turkey. Almost all of the tobacco stands were arranged at or near the entry of the store as the most visible consumer products that could be defined as a direct advertisement to consumers and non-consumers, including children. As observational evidence, legislation for selling to children under the age of 18 has not been working in Turkey. It was evident that about half of the outlets were inappropriately licensed and that mapping or geographical information systems could permit appropriate licensing. Moreover, map-

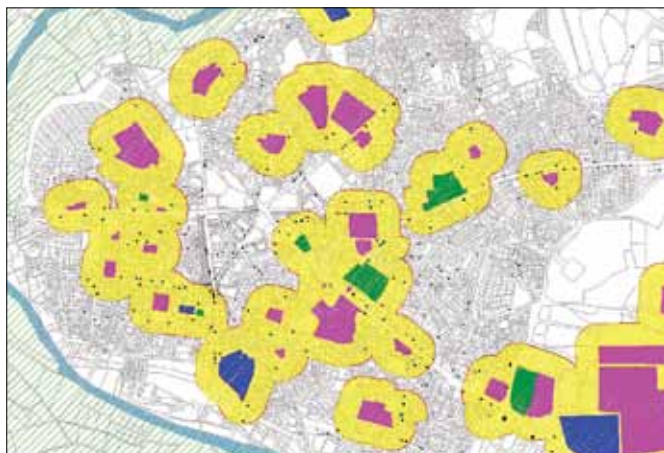


Figure 2. Geodetic distribution of retail tobacco outlets within 100 m to education, health or sport institutions. Pink zone: education, green zone: health, blue zone: sport intuitions

Table 1. Retail tobacco outlets within 100 m of education, health and/or sport institutions

Institutions	n/N	%	% of tobacco retailers
Education	185/268	69.03	32.51
Health	66/268	24.63	11.60
Sport	17/268	6.34	2.99
Total	268/569	100	47.10

ping can also provide important clues for further measures like youth prevention projects. As far as we know, this study was the first of its kind in which retail tobacco stores were mapped in Turkey.

Enforcing the ban on tobacco advertisements and promotions is a principal method for controlling tobacco (8). Tobacco marketing and promotions show a dose-response relationship and are the main reasons for starting or continuing smoking tobacco; point-of-sale displays play an important role for the tobacco industry. Children and adolescents are especially sensitive to advertisements and, as such, are targets for cigarette companies to expand brand share. Retail tobacco stand arrangements and displays are direct advertisements of tobacco products. Exposure to these advertisements promotes both tobacco products itself and the use of tobacco. It stimulates people to buy tobacco products, normalizes tobacco use and makes it difficult for those trying to quit smoking. Teenagers are especially affected by this. It has been proven in many studies that tobacco point-of-sale marketing encourages teenagers and children to start smoking (3, 9). Studies have shown that teenagers typically choose cigarette brands that are advertised constantly in the markets around their schools (3, 10). Similar studies performed in the USA showed that the more teenagers shopped, the more sellers advertised for cigarettes in the same market (3). Research done by Emri et al. (11) in Turkey showed that children aged between 7 and 13 were familiar with 80% and 90% of cigarette brand advertising and cigarette logos, respectively. By advertising to provide familiarity for particular cigarette brands, cigarette companies effectively increased the number of cigarettes smoked by adolescents (3, 12). Other evidence showing the importance of point-of-sale regulations for tobacco companies comes from their internal documents (3). It is accepted that locating sweet candy near tobacco products is also an effective technique to make children suppose that tobacco products are harmless and accessible like candy (13, 14). This research showed that tobacco products were generally located behind the checkout and were big enough to be easily seen and nearby products, like sweets, were targeted to children. Retail tobacco stores around schools have a special influence on students. According to a study done in Canada including 29 schools, each school had an average of 6.3 retailers, and cigarette use was significantly higher in the schools with more nearby retailers (15). Nearby tobacco retailers were accepted as a store within the six streets of the school in that study. According to research carried out by Chan et al. (16), the presence of tobacco retail outlets around schools increases the risk of children starting smoking. This study pointed out that the government should be careful when awarding licenses to points of sale around schools. A 1 km zone was accepted as being near a school in that research (16). It was found in another study that teenagers with cigarette retailers near their homes or schools were more likely to smoke (15). In that study, adolescents walking 400 m in five minutes was accepted as close-range. The only way to counteract the effects of advertisements is to remove tobacco point-of-sale displays from their field of vision (17). Legislation on point-of-sale displays is on the agenda in many countries, and also in Turkey, but retail outlets and point-of-sale displays

are persistent. When we were carrying out the current study, adherence to new legislation was very low.² However, as seen in Ireland, practices such as removing point-of-sale displays is highly effective when adherence is high (16).

According to the address-based population census results in 2008, the population of the city center of Edirne was almost 153,000 (18). In this study, we found one tobacco retail outlet per 270 people. According to recent news published by a prominent financial paper in Turkey, the prevalence of cigarette points of sale is the highest in Edirne; there is one retail outlet per 245 people. This number is above average and is four times higher than the number in Istanbul.³ This situation is expected as Turkey is a country where smoking is very popular and, according to research done by us in the city center of Edirne in 2009, 58% of adults (68% of men and 54% of women) were currently smokers (19). The literature also shows a connection between retail tobacco outlet density and the prevalence of smoking (20-22). It has also been stated that generating a high density of tobacco retailers may be a marketing tactic of tobacco companies especially targeting the poor and minority races (22, 23). It would be beneficial not only to remove the point-of-sale displays from the field of vision, but also to categorize them according to population density and zones. Mapping techniques would also be beneficial for these measures.

The tobacco market in Turkey was liberalized after the 1980s and totally privatized in 2008. National and local state monopoly offices easily organized and controlled the retail tobacco environment; however, after the 2000s, the retail tobacco market was deregulated and liberated (the state offices were closed and retailer licensing was given to the City Chamber of Commerce and Industry). With the advertisement bans of Turkish Tobacco Control Law in 1996, the point-of-sale marketing gained importance and, in the absence of governmental supervision, retail tobacco outlets with displays appeared at almost every type of commercial location, including restaurants, charcuteries and even in stationeries. Before deregulation of the retail environment, tobacco products could not be sold within 100 m of schools, sport and education facilities. With the current situation, we speculated that Turkish governments halted the regulation of the tobacco marketing industry because of some hidden treaties with tobacco companies in the national tobacco monopoly privatization process, as mentioned in the report prepared for the International Union Against Tuberculosis and Lung Disease (24). This study clearly indicates that the Turkish government does not control the cigarette market sufficiently.

The major limitation of this study is that we did not determine the effects of cigarette smuggling. As a frontier city of Turkey, we found that 42% of students studying in secondary schools or high schools were able to buy smuggled cigarettes in 2002 (25). Although it is thought that the proportion of smuggled cigarettes is on the decline, the exact rate is unknown. This is one of the main reasons for the increasing prevalence of cigarette use especially among adolescents despite many legal precautions in Turkey. Although the smuggled cigarette market does not provide visual advertisement, it has the potential to affect the results of this research in terms of cigarette accessibility.

According to the existing legislation, the sales of tobacco in education, health, culture and sport facilities are banned; however, we think licenses should be abolished in unrelated stores like restaurants, cafes, stores with dried nuts and fruits and charcuteries, etc.

Conclusion

We concluded that one of the reasons for the increasing prevalence of cigarette use, especially among adolescents in Turkey, is deregulation of the retail tobacco marketing industry as a result of the privatization process of the national tobacco monopoly. All point-of-sale displays must be removed and retail stores must be licensed according to density and their proximity to schools, sport and health facilities. Using mapping techniques can be useful in terms of controlling the retail marketing environment.

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Conflict of Interest

No conflict of interest was declared by the authors.

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