

Violation of the Tobacco Control Law by Drivers in Vehicles in Two Streets in İzmir: A Descriptive Study

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Cite this article as: Erkoyun E, Alçiçek MS, Selek S. Violation of the Tobacco Control Law by Drivers in Vehicles in Two Streets in İzmir: A Descriptive Study. Turk Thorac J 2018; 19(3): 132-5.

Abstract

OBJECTIVES: After signing and approving the Framework Convention on Tobacco Control (FCTC), Turkey amended laws on tobacco control in 2008 and also expanded the smoking ban in 2013 to include drivers in all vehicles. Four years later, this amendment does not seem as effective. The aim of this study was to observe violation of the law by the drivers and to analyze the association between gender of the driver, type of the vehicle, approximate age group definition of the passenger (either child or adult), and the law violation in two streets in Konak district, İzmir, Turkey.

MATERIALS AND METHODS: In this cross-sectional study, two observer teams were located in two different busy streets on the same afternoon and they collected data on the violation of the law, gender of the driver, approximate age group definition of the passengers (either adult or child), and type of the vehicle (special, taxi, or other commercial). Logistic regression for the violation of the law was conducted.

RESULTS: Law violation prevalence is 7.2%. In univariate analysis, the gender of the driver and having at least one child as a passenger were associated with the violation of the law. In multivariate analysis, not having children increases (OR: 8.4) the risk of the violation of the law.

CONCLUSION: The violation of the law was high, but the drivers seemed to be aware of the harms of smoking by looking at the increased risk of the violation in vehicles, in which no child was carried as passengers.

KEYWORDS: Tobacco smoking, smoking ban, violation of tobacco control law

Received: 22.09.2017

Accepted: 20.03.2018

INTRODUCTION

Tobacco smoking is a widely known hazard to human health. Doll and Hill's milestone work on the health hazards of tobacco smoking in a huge pile of literature suggested its effects on morbidity and mortality, and developing countries share more burden [1]. As literature accrued on its hazardous effects, governments felt more responsible to restrict its use in the community. In 2003, another international achievement was accomplished. World Health Assembly accepted the Framework Convention on Tobacco Control (FCTC) by consensus [2]. This is a set of policy options developed to decrease the smoking rates and alleviate its health burden in the community.

Ministry of Health, Turkey, immediately signed the FCTC in 2004, and in the same year, the Grand National Assembly of Turkey accepted the convention [3]. The acceptance of FCTC in Turkey expanded the smoking ban and accelerated political action to lower the smoking cases in the community.

In Turkey, the first Global Adult Tobacco Survey (GATS) was conducted in 2008 and the second one was conducted in 2012. The law against tobacco products was passed in 1996 and was called the Legislation on the Prevention and Control of Harms of Tobacco Products No. 4207 (in short, Law no. 4207). It was amended in 2008 to be in line with FCTC. After a decrease in the smoking prevalence was observed in GATS 2012 (from 31.2% to 27.1%), the coverage of smoking ban was expanded in 2013. This latest amendment banned smoking for all drivers in all kinds of vehicles, including private cars [4].

Only observing the law violation rate is a method that has been used in the literature. There is another study that assessed the violation of Law no. 4207 in restaurants in Istanbul in the years 2013 and 2014 [5]. Previously, Öztürk et al. [6] published a study by observing taxis in Ankara and found the prevalence of law violation to be 1.3%. In Ireland, where all cars were observed, the violation prevalence was 1.4% [7]. To our knowledge, no studies have observed all drivers and violation rates in Turkey.

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In Östergötland, Sweden, Johansson et al. [8] found that parenthood had an effect on the smoking behavior. Adults without children more commonly smoked inside the house than those with children.

The aim of this study was to determine the prevalence of violation of Law no. 4207 and to analyze the effect of the gender of the driver and having at least one child passenger or any other passenger in the car on the violation of this law in two streets in the Konak district of İzmir province.

MATERIALS AND METHODS

The violation of Law no. 4207 by the drivers was observed at two locations simultaneously in the Konak district of İzmir on a Thursday afternoon of August 10, 2017. İzmir is a highly urbanized city. It is the third largest city of Turkey and also has several heavy industrial facilities. The headquarters of the municipality and local government are located in the Konak district. The international harbor of the city is also located in Konak. Car traffic is usually busy on both weekdays and weekends. Two observation points were selected as appropriate for monitoring the drivers' actions in Konak. These streets were selected for the convenience of observers. These streets were Talatpaşa and İnönü. Both streets are busy during the day time. Two teams composed of five people each were located on the two streets. Two observers from each team observed the vehicles and dictated the features about the driver, vehicle, and the presence of a passenger. The other team members took notes on a structured sheet. All decisions were subjective and instant and were made by observer teams separately.

On the basis of GATS 2008 and 2012 results, smoking prevalence was accepted as 30% among adults [9]. Then, at an incidental time, a chance to encounter a person smoking was thought to be 5%. Sample size was calculated with this prevalence and 1% deviation. With a 95% confidence level and 80% power, the minimum sample size was 1,822.

The dependent variable of this study was the violation of Law no. 4207. According to this law, smoking is prohibited for all the drivers. In taxis and other public vehicles, smoking is prohibited for the passengers and drivers. Therefore, the violation of the law was defined as either a driver smoking in the vehicle or at least one passenger smoking in a taxi or any other public vehicle.

The drivers' gender, existence of a passenger in the vehicle, and the make of the vehicle were noted. The gender of any smoking passenger was recorded separately. The approximate age group definition of the passengers was classified as either child or adult. Vehicles were classified as private cars, taxis, or other commercial vehicles. Other commercial groups composed of vehicles, other than taxis, that were in use for transporting goods or people.

Ethical board approval was not obtained for this study. The reason behind this idea was that the subject for this research was protected by a law, which is the highest regulation after the Constitution in Turkey. In a similar study in Ankara, researchers also did not have ethical approval [6]. A direct

contact with the participants was not possible because all the participants of this study were in vehicles. Informed consent was not been taken.

Statistical Analysis

The percentages of variables were shown. The association between independent and dependent variables was analyzed using the chi-square test. Analysis with the logistic regression model was conducted with independent variables, which were found to be significantly associated with the dependent variable. A P value less than 0.05 was accepted as significant. Statistical analyses were performed using SPSS (Statistical Package for the Social Sciences) version 15.0 (SPSS Inc.; Chicago, IL, USA).

RESULTS

In this study, 1,189 drivers and vehicles were observed. Only 153 (12.9%) of all the drivers were female. Almost half of the vehicles had passengers (47.5%). In 101 vehicles, at least one of the passenger was thought to be a child. In total, 473 (39.8%) were commercial vehicles, and of these, 165 (13.9%) were taxis. Law no. 4027 had been violated in 86 vehicles (7.2%). Among all the observations, in eight vehicles (0.7%), the passenger and driver were found to be smoking (Table 1).

In the chi-square analysis, the existence of at least one passenger in the vehicle ($p=0.275$) and classification of the vehicle ($p=0.16$) were not found to be associated with the violation of Law no. 4207. Male drivers ($p=0.043$) and drivers who did not have at least one child as a passenger ($p=0.011$) were found to be associated with the violation of the Law no. 4207 (Table 1).

Male drivers violated the law 2.4 times [95% confidence interval (CI), 1.0-6.2] more than female drivers when adjusted for having at least one child as a passenger but this association was not significant. Not having at least one child passenger was significantly associated with an 8.4 times increased risk of the law violation relative to the existence of a child in the car (95% CI, 1.2-60.9) (Table 2).

DISCUSSION

This cross-sectional observational study shows that the violation of Law no. 4207 prevalence is high and not having at least a child passenger in the vehicle significantly increases risk of law violation. This association persists after adjusting for the gender of the driver, which suggests that drivers are sensitive to the health of the children they have as passengers. This may also suggest that some smokers acknowledge the harms of cigarette smoking, but they endanger their health when they do not have children as passengers.

Tobacco smoking is a highly addictive behavior, and the tobacco industry plays a critical and powerful role to keep the revenue high [10,11]. In 2008, all political parties in the Grand National Assembly supported the expansion of the smoking ban [4]. The support for the comprehensive bans was 95.5% in GATS 2012 in all participants and 86.9% in smokers. After the latest amendment about smoking ban, which has been published in the Official Journal mass media, by looking at the results of this study, we can say that the clause that bans

Table 1. Characteristics of the driver, passenger, and vehicle and their association with violation of law

Characteristic	Violation					
	Yes		No		Total	
	n	%	n	%	n	%
Driver						
Gender						
Male	81	7.8	955	92.2	1.036	100.0
Female	5	3.3	148	96.7	153	100.0
Chi-square=4.114, p=0.043						
Chi-square=0.659, p=0.719						
Having passenger						
Absent	50	8.0	574	92.0	624	100.0
Present	36	6.4	529	93.6	565	100.0
Chi-square=1.190, p=0.175						
Having child passenger						
Absent	85	7.8	1.003	92.2	1.088	100.0
Present	1	1.0	100	99.0	101	100.0
Chi-square=6.411, p=0.011						
Vehicle classification						
Special	44	6.1	672	93.9	716	100.0
Taxi	13	7.9	152	92.1	165	100.0
Other commercial	29	9.4	279	90.6	308	100.0
Chi-square=3.552, p=0.160						

Table 2. Logistic regression of violation of Law no. 4207

Variable	B	p	OR (95% CI)
Male (ref*: Female)	0.909	0.053	2.5 (1.0-6.2)
Not having child passenger (ref*: presence)	2.126	0.036	8.4 (1.2-60.9)

*: category

smoking in the driver's place does not have practical implications. There may be a divergence between the rhetoric and behavior in the community. This may also be the result of a quantitative study design where the participant may make claims about the intention of the interviewer.

A study in Ankara found a lower prevalence of the law violation [9]. They focused only on commercial taxis. According to their findings, the presence of a child is not protective against smoking in taxis. Smoking ban in taxis is an older regulation than smoking ban for all drivers. Maybe the regulation for taxis has been acknowledged more widely by the community. Smoking prevalence in Ireland is quite low compared with the observation of our study (1.4%), although the study was conducted before smoking was banned in vehicles for drivers.

In a commentary, Elbek et al. [4] suggested that ministries other than the Ministry of Health did not meet their legal liabilities about the law. Prior to 1996, in Turkey, traveling by commercial bus lines was hard because of commuter smok-

ing in the buses. After the first ban came into agenda, the public generally acknowledged the rule of law. There may be some ways to increase obedience to this latest regulation. The results of this study may be used to choose target populations for health promotion.

All of our observations are based on the subjective decisions of observers, where decisions were made on an individual basis. We did not conduct a pre-trial consistency analysis between the two teams on the same street simultaneously. A bias caused by inconsistency is not likely because the teams observed a restricted and definite set of variables. Children older than 15 years may have been misclassified as adults. The estimated minimum sample size was not reached. This may explain the higher prevalence of violation than expected. Among all these limitations, this study has some strengths. All observations were made during the day time. Missing a smoking driver or passenger was not likely. Also, people who acted as observers and those who collected data were different. The positions that were chosen for observation were convenient for observation. We did not calculate missing vehicles, but we claim that their rate is low.

In conclusion, the law violation prevalence was found to be high on the two busy streets in Konak, and not having children as a passenger in the vehicle was found to be associated with the violation of law in the vehicles. The adverse effects of second-hand smoking on children can be considered to reach target audience.

Ethics Committee Approval: N/A

Informed Consent: N/A

Peer-review: Externally peer-reviewed.

Author contributions: Concept - E.E., M.S.A., S.S.; Design - E.E., M.S.A., S.S.; Supervision - E.E.; Resource - M.S.A., S.S.; Materials - M.S.A., S.S.; Data Collection and/or Processing - E.E., M.S.A., S.S.; Analysis and/or Interpretation - E.E.; Literature Search - E.E.; Writing - E.E., M.S.A., S.S.; Critical Reviews - E.E., M.S.A., S.S.

Acknowledgements: We would like to thank to our fellows for their contribution on study design, data collection and analysis; namely Sümeyye Tereci, Selen Toy, Halil Said Kaçmaz, Fatma Karakoç, Büşra Nur Bacık Göksu, Fevzi Kolay, Talha Özüdoğru, Enes Gidirşioğlu (sixth grade medical students) and Hasan Koç (MD, resident of public health).

Conflict of Interest: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

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