

KNOWLEDGE AND ATTITUDE OF TAXI DRIVERS ON THE NEW LEGISLATION FOR SMOKE-FREE TAXIS: AN OCCUPATIONAL HEALTH PERSPECTIVE

Yildiz AN¹, Karadag O², Gonen MO³, Gurel F⁴, Ilhan B⁵, Inel M⁶, Islamoglu H⁷, Kara K⁸

ABSTRACT

Objective: Taxi drivers carry significant risks related to occupational health and safety. Exposure to second-hand tobacco smoke is known to be one of those health risks. As legislations for smoke-free taxis become more widespread throughout the world, this study aimed to assess knowledge and attitude of taxi drivers on the new legislation for tobacco control introduced in Turkey recently.

Methodology: The study population consisted of 135 taxi drivers from 22 different taxi stations in Ankara Turkey. Data of the descriptive study was collected in October, 2008 through face-to-face interviews with a standart questionnaire. Descriptive statistics were used to summarize data, whereas chi-square was used to compare groups.

Results: All the study participants were male with a mean age of 47.2±11.8 years. More than half of the taxi drivers (59.3%) were found to be current smokers. Although level of knowledge and attitude of taxi drivers on the new legislation were favorable in general, some difficulties and barriers were found to be present in implementation of the ban. Most of the smoking drivers were found to continue smoking in their taxis. About 80.0% of the drivers stated their concern of losing out on clients' satisfaction if they restrict smoking in their taxis.

Conclusion: Taxi drivers and clients' knowledge, attitudes and behaviors are important determinants in successful implementation of legislations for smoke-free taxis.

KEY WORDS: Tobacco, Taxi driver, Tobacco control, Antitobacco legislation.

Pak J Med Sci January - March 2010 Vol. 26 No. 1 111-116

How to cite this article:

Yildiz AN, Karadag O, Gonen MO, Gurel F, Ilhan B, Inel M, et al. Knowledge and Attitude of Taxi Drivers on The New Legislation for Smoke-free Taxis:An Occupational Health Perspective. Pak J Med Sci 2010;26(1):111-116

INTRODUCTION

About 1.1 billion people smoke worldwide.¹ Tobacco is the single most preventable cause of death and a risk factor for six of the eight

leading causes of death.² In the last decade, tobacco control interventions have become more widespread throughout the world. When implemented and enforced as a package, the six policies of the World Health Organization (WHO) will free countries and their people from tobacco's harm.²

In Turkey, 8.4% of adolescents in the 13-15 years age group and 34.6% of adults (52.0% of men and 17.3% of women above 18 years old) smoke.³ First law for tobacco control, which was enacted in 1996, banned smoking in public places, selling of tobacco products to children

Correspondence:

Dr. Ali Naci Yildiz
Hacettepe Universitesi Tip Fakultesi,
Halk Sagligi Anabilim Dalı,
06100, Ankara, Turkey.
E-mail: anyildiz@hacettepe.edu.tr

* Received for Publication: November 4, 2009

* Accepted for Publication: November 21, 2009

as well as advertising and promotion of tobacco brands.⁴ After ratification of the WHO Framework Convention on Tobacco Control (2003) in 2004, Turkey has gained speed in tobacco control. With a more comprehensive law enacted on May 2008, smoking ban is widened to cover all the public places including taxis. According to a report on the tobacco control activities in 30 European countries in 2007; in which price of tobacco products, smoke-free work and public places, spending on public information campaigns, comprehensive bans on advertising, health warning labels and treatment options for smoking cessation were used as tobacco control criteria, England ranked as the first country in successful implementation of these activities.⁵ If a similar assessment was to be conducted in Turkey, it would rank 23rd among the European countries.

Taxi driving is considered as a marginal industry and evidence shows that the job is hazardous.⁶ According to literature; long working hours, job stress, working with the public, working with cash, working alone, shift work, noise, vibration, exposure to exhaust gas, tobacco smoke and heavy metals such as lead are among the occupational risks of taxi drivers. Occupational health problems include cardiovascular diseases, musculoskeletal system problems, respiratory problems, traffic accidents and violence which can end up with death.⁶⁻¹⁰

Smoking ban in taxis help protection of both the clients' and drivers' health. In that sense, this intervention can be regarded both as a smoke-free public place and a smoke-free workplace intervention.² Smoke-free environments also help smokers to quit smoking.¹¹ On the other side of the coin, taxi drivers can be exposed to second-hand smoke when their clients smoke. Despite being aware of the risks of second-hand smoke, many taxi drivers feel they can not refuse service to clients who smoke because it would mean a loss of income.⁶

Smoking ban in taxis have been widely discussed among different parties in Turkey. This study, as the first study being conducted on this topic in Turkey, aimed to assess knowledge and attitude of taxi drivers on the new

legislation for tobacco control during its fifth month after enactment. In return, the study is expected to contribute to the implementation assessment of the new legislation for tobacco control.

METHODOLOGY

The study population consisted of 135 taxi drivers from 22 different taxi stations in Ankara, Turkey. Data of the descriptive study was collected in October, 2008 through face-to-face interviews with a standart questionnaire including 24 questions. Participation in the study was voluntary. Participants who expressed their will to quit smoking during interviews were directed to the primary health care center in their region.

Descriptive statistics were used to summarize data, whereas chi-square was used to compare groups by SPSS 15.0 statistical package programme. For statistical significance, alpha value was taken as 0.05. For comparison, educational level was grouped as primary/secondary school graduates versus high school/university graduates and age was grouped as 19-35, 35-50 and 50+ years.

RESULTS

Sociodemographic Features: In the study, a total of 135 taxi drivers from 22 different taxi stations were interviewed. All the participants were male with a mean age of 47.2±11.8 years. The majority were high school graduates (38.5%) and married (88.1%). More than half of the drivers (59.3%) were found to be current smokers whereas 14.1% were ex-smokers. Age, marital status, educational level and income were not found to be associated with smoking status ($p>0.05$).

Knowledge and attitude on the new legislation for tobacco control: According to the study results, all of the taxi drivers have heard about the new legislation for tobacco control (87.4% via media, 35.6% via posters and pamphlets and 2.2% via internet). In spite of the high smoking rate, 80.0% of all the drivers expressed their support for the smoking ban. Non-smokers (90.7%) were

Table-I: Distribution of answers of taxi drivers to the question regarding public places covered by the smoking ban (Ankara, October 2008).

Public places covered by the smoking ban	Correct answer		Wrong answer		Doesn't know		Total	
	n	%	n	%	n	%	N	%
Taxis	135	100.0	-	-	-	-	135	100.0
Private cars*	93	68.9	30	22.2	12	8.9	135	100.0
Hotel lobbies	77	57.0	43	32.0	15	11.0	135	100.0
Stadiums	49	36.3	65	56.6	11	8.1	135	100.0
Open terraces/ gardens of private teaching institutions	53	39.3	65	48.0	17	12.7	135	100.0
Shopping malls	105	77.8	28	30.7	2	1.5	135	100.0
Restaurants*	37	27.4	96	71.1	2	1.5	135	100.0
School gardens	92	68.1	32	33.8	11	8.1	135	100.0
Foyers of movie theaters & theaters	100	74.1	22	25.3	13	9.6	135	100.0
Tax offices	119	88.0	4	3.0	12	9.0	135	100.0
Trains	99	73.3	25	18.6	11	8.1	135	100.0
Hospital gardens*	75	55.6	51	37.8	9	6.6	135	100.0
Prisons	36	26.7	52	38.5	47	34.8	135	100.0

* During the study in October 2008, smoking was not prohibited in these places. However, smoking has been totally banned in hospitality sector after July, 2009.

in favor of the ban more than smokers (72.8%), though the difference was not statistically significant ($p=0.065$). Age, educational level and income were not found to be associated with the drivers' opinion on the legislation ($p>0.05$). Of the study participants, 81.5% stated that they support banning of indoor smoking, 60.0% stated that the penalties were strong enough to keep smokers from disobeying the legislation, 56.3% stated that smoking ban can cause smokers to feel reluctant to smoke near non-smokers and 56.3% stated that the ban can help smokers to quit smoking.

Out of 13 public places questioned, an average of 7.7 ± 2.4 places were known by the drivers to be covered by the smoking ban (Table-I). Percentage of drivers who knew eight or more public places correctly were higher among graduates of high school and university (71.9%) than among less educated drivers (46.5%) ($p=0.003$).

Knowledge and attitude on smoke-free taxi policy: All the drivers in the study knew that smoking

was prohibited in taxis. About 81.5% believed that riding in a smoke-free taxi would be more pleasant for clients, 73.3% believed the new legislation would protect taxi drivers' health. On the other hand, 54.8% of the drivers stated that the new legislation caused a decrease in client numbers and 34.1% believed the legislation has restricted clients' right to smoke freely.

Of the smoking drivers, 32.9% marked an apparent decrease in the number of cigarettes smoked after the legislation has taken effect. More than half (54.0%) of the smoking drivers expressed their will to quit smoking. Although most of the drivers (63.7%) believed that smoking in the taxi would be inappropriate, 70.3% of the smoking drivers stated they sometimes smoke in the taxi when it's not occupied. In addition, 23.7% of the smoking drivers were found to smoke even when their taxi is occupied. Of these drivers, 26.3% stated they never asked for permission of their clients, whereas 47.4% always asked for permission.

Table-II: Frequency distribution of client behaviors regarding the legislation for smoke-free taxis (Ankara, October 2008).

	<i>Always</i>	<i>Frequently</i>	<i>Sometimes</i>	<i>Never</i>	<i>No opinion</i>	<i>Total</i>
Attempting to smoke in spite of the legislation	14.8	53.3	31.9	-	-	100.0
Insisting on smoking even after warned by the driver	5.2	39.3	43.7	10.3	1.5	100.0
Getting out of the taxi to continue to smoke after warned by the driver	10.3	17.8	38.5	31.9	1.5	100.0

About 80.0% of the taxi drivers stated their concern of losing out on client satisfaction if they restrict smoking in their taxis. This concern was more prominent among smoking drivers (85.2%) than non-smokers (72.2%), though the difference was statistically insignificant ($p=0.065$). Almost all the taxi drivers (97.8%) were aware of the penalty fees. Of these, 70.5% knew the amount of penalty (2940 USD) for drivers if they allow the client to smoke.

Attitudes of the drivers towards a client who lights a cigarette in the taxi were found to be diverse. Half of the drivers (51.9%) stated they would warn the client, one third (31.1%) stated that they would kindly ask the client to get off the taxi if s/he continues to smoke after the first warning and the rest (17.0%) stated that they would neither say nor do anything in such a case.

Attitudes towards a client who attempts to smoke were found to differ by the taxi driver's smoking status. For instance, drivers who would not do anything other than warning the client were more likely to be smokers (75.3%) than non-smokers (59.3%) ($p=0.048$). In addition, non-smoking drivers (40.7%) were more likely to ask the client to get off the taxi than smoking drivers (24.7%). Difference in attitudes in such a case was not found to be associated with age or educational level ($p>0.05$). However, taxi drivers who have a concern of losing client's satisfaction ($p=0.009$) and drivers who do not support the legislation ($p=0.012$) were less likely to take strict measures such as asking the client to get off the taxi if s/he insists on smoking.

In the study, attitudes of clients towards smoke-free taxis were also found to be diverse (Table-II). About 68.1% of the taxi drivers pointed out that some clients attempt to smoke in spite of the legislation, 44.5% stated that some clients insist on smoking even after they are warned by the driver not to smoke and 21.8% stated that when told not to smoke, some clients get out of the taxi to continue to smoke.

DISCUSSION

In the last decade, interventions aimed at tobacco control in public places have become more widespread throughout the world.¹² In Turkey, a comprehensive law by which smoking ban is widened to cover all the public places including taxis was enacted on May 2008. Assessment of the taxi drivers' knowledge, attitude and behaviors regarding smoke-free taxis is needed for future planning.

Of the 135 taxi drivers interviewed in the study, more than half (59.3%) were found to be current smokers. In Turkey, 52.0% of men over 18 years of age smoke.³ When compared with this latest figure, proportion of smokers in the study group was found to be higher than in the general population. This result is in accordance with previous research results indicating higher proportion of smoking among professional drivers including taxi drivers than among most of the other occupational groups. In two cross-sectional studies, Bilir et al. found proportion of smoking among professional drivers as 70.1% and 74.3% in 1998 and 1999; respectively.⁴ Compared to these figures, proportion of

smoking among Turkish taxi drivers might have been decreased in the last decade.

According to the study results, all of the taxi drivers were found to have heard about the new legislation for tobacco control. The finding that media was the most common (87.4%) source of information, point out the importance of media's role in raising public awareness. This role has to be considered during efforts aimed at increasing knowledge and compliance of public with the new legislations.

The finding that most (80.0%) of the taxi drivers, whether a smoker or not, are in favor of the new legislation for smoke-free taxis is promising for the implementation of the legislation. Out of 13 public places questioned, an average of 7.7 ± 2.4 places were correctly known by the drivers to be covered by the smoking ban. This finding indicates that the scope of knowledge on the public places covered by the legislation is still limited. However, level of knowledge was found to increase as the education level increased ($p < 0.05$), which is in accordance with literature indicating the contribution of formal education in access to information.¹³

The drivers' level of knowledge on smoke-free taxis was higher than other public places and their attitudes on smoke-free taxis were favorable, however some difficulties and barriers were found to be present in implementation of the ban. Most of the drivers (63.7%) believed that smoking in the taxi when it's not occupied would be inappropriate. Nevertheless, 70.3% of the smoking drivers stated that they sometimes smoke in the taxi when it's not occupied and 23.7% were found to smoke when the taxi is occupied. These findings are consistent with previous literature indicating that behavior may not always be in parallel with knowledge and attitude.¹⁴

Four out of five taxi drivers (80.0%) stated their concern of losing out on client satisfaction if they restrict smoking in their taxis. Similar results were found in another study conducted in Toronto by Facey et al.⁶ Concern of decrease in client numbers might be reflected on the attitudes of taxi drivers towards their clients.

The study findings also imply that the client's attitude is an important determinant of the taxi driver's compliance with the new legislation. Taxi drivers who have a concern of losing client's satisfaction were less likely to take strict measures ($p < 0.05$).

Attitudes towards a client who attempt to smoke were found to differ by the taxi driver's smoking status. For instance, drivers who would warn the client in case s/he attempts to smoke in the taxi were more likely to be non-smokers than smokers ($p < 0.05$). Non-smokers might be feeling more uncomfortable than smokers when exposed to second-hand smoke or their compliance with the legislation might be stronger. Again 68.1% of the taxi drivers pointed out that some clients attempt to smoke in spite of the legislation and 44.5% stated that some clients insist on smoking even after they are warned by the driver not to smoke. These findings indicate that there are also some problems encountered with regards to the clients' compliance with the new legislation.

More than half of the drivers (56.3%) stated that the ban can help smokers to quit smoking. One third (32.9%) of the smoking drivers marked an apparent decrease in the number of cigarettes smoked after the legislation has taken effect. According to literature, smoke-free policies in workplaces in several industrialized nations have reduced total tobacco consumption among workers by an average of 29.0%.¹¹ In the study, three out of four drivers stated that smoking ban in taxis can help protect drivers' health. Second-hand exposure to tobacco smoke which has been considered as one of the occupational risks of taxi drivers, increases the risk of coronary heart disease by 25–30% and the risk of lung cancer in non-smokers by 20–30%.^{2,15} The study findings are in accordance with previous literature which implies that legislations for tobacco control help people to quit smoking and lead to decreased exposure to second-hand smoke.²

As a conclusion, taxi drivers and clients' knowledge, attitudes and behaviors are found to be important determinants in successful implementation of legislations for smokefree

taxi which have been known to protect both the clients' and the drivers' health.

Contribution of Authors:

All eight authors planned, discussed and agreed the strategy and scope for the study. They designed the questionnaire and planned data collection procedure. Gonen, Gurel, Ilhan, Inel, Islamoglu and Kara collected the data and they performed the initial analysis. Yildiz and Karadag performed further analysis. All authors worked on interpretation of the data and drafting the article. Yildiz and Karadag revised the article for intellectual content. All authors approved the final version of the paper.

REFERENCES

1. World Bank. Curbing the epidemic: Governments and the economics of tobacco control [Online]. 2001 [Cited 2008, Dec 18]. Available from: <http://www1.worldbank.org/tobacco/reports.asp>
2. WHO report on the global tobacco epidemic, 2008: The MPOWER package. Geneva: World Health Organization, 2008.
3. National household survey, 2003. Main findings. Ankara: Ministry of Health-Refik Saydam Hygiene Center, School of Public Health Directorate, December, 2006.
4. Bilir N., Dogan BG, Yildiz AN. The level of compliance with legislation to reduce the harmful effects of tobacco products. International Development Research Center, Ottawa (Project No: 94-0200/02882), Hacettepe Public Health Foundation, Ankara, 2000.
5. Joossens L, Leuven RM, Paulo S. Progress in tobacco control in 30 European Countries, 2005 to 2007. 4th European Conference on Tobacco or Health, Basel, Switzerland: 2007 October 11-13.
6. Facey ME. The health effects of taxi driving. Canadian J Public Health 2003;94(4):254-257.
7. U.S. Department of Labor, Occupational Safety and Health Administration. Risk factors and protective measures for taxi and livery drivers [Online]. 2000 May [Cited 2008, Dec 9]. Available from: <http://www.osha.gov/OSHAfacts/taxi-livery-drivers.pdf>
8. Bigert C, Klerdal K, Hammar N, Hallqvist J, Gustavsson P. Time trends in the incidence of myocardial infarction among professional drivers in Stockholm 1977-96, *Occup Environ Med* 2004;61(12):987-91.
9. Funakoshi M, Tamura A, Taoda K, Tsujimura H, Nishiyama K. Risk factors for low back pain among taxi drivers in Japan, *Sangyo Eiseigaku Zasshi* 2003;45(6):235-47.
10. Merchant AT, Lalani I, Afridi ZH, Latif N, Malik TA, Merchant SS et al. What is the effect of riskshaw noise on its driver. *J Pak Med Assoc* 2000;50(4):124-8.
11. Fichtenberg CM, Glantz SA. Effect of smoke-free workplaces on smoking behaviour: systematic review. *BMJ* 2000;325(7357):188.
12. European Monitoring Center for Drugs and Drug Addiction: 2008 Annual Report: The state of the drugs problem in Europe [Online]. 2008 [Cited: 2008, Dec 12]. Available from: www.emcdda.europa.eu/publications/annual-report/2008.
13. International Association of Universities. Equitable Access, success and quality in higher education: A policy statement by the International Association of Universities. Adapted by IAU 13th General Conference, Utrecht, July, 2008.
14. Schrader PG, Lawless KA. The knowledge, attitudes & behaviors approach, *Performance Improvement*, 2004;43(9):8-15.
15. U.S. Department of Health and Human Services. The health consequences of involuntary exposure to tobacco smoke: a report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, CDC, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion [Online]. 2006 [Cited: 2007, Dec-5]. Available from: <http://www.surgeongeneral.gov/library/secondhandsmoke/report/fullreport.pdf>

Authors:

1. Yildiz AN, MD, PhD ,
Assoc. Prof., Hacettepe University,
Faculty of Medicine,
Department of Public Health,
Ankara, Turkey.
2. Karadag O, MD, MSc,
Research Assistant,
Hacettepe University Faculty of Medicine,
Department of Public Health,
Ankara, Turkey
3. Gonen MO,
4. Gurel F,
5. Ilhan B,
6. Inel M,
7. Islamoglu H,
8. Kara K,
- 3-8: Intern (MD Candidate),
Hacettepe University Faculty of Medicine,
Ankara, Turkey.