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Original Article

Study of Factors Influencing Drug Use Among Commercial Drivers in Suburban Public Transport

Elaheh Ainy[1*], Hamid Soori[2], Roghayeh Paydar[3]

[1]Department of Vice Chancellor Research Affairs, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[2]Safety Promotion and Injury Prevention Research Center, Department of Epidemiology, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[3]Researcher of Tobacco Control Research Center, Iranian Anti-tobacco Association, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Abstract

Background and aims: This study was conducted to determine the economic, social, and cultural factors influencing the consumption of drugs by drivers of public vehicles in 2013.

Materials and Methods: The capture-recapture method was employed to determine drug use, its type, and the time of consumption among drivers of public transport. At the capture stage, 384 of the samples were surveyed and then (15 days later) at the recapture stage, 1176 drivers were randomly selected. All drivers who crossed the boundaries of Hormozgan, Khuzestan, Khorasan Razavi, West and East Azarbaijan, Sistan and Baluchestan, and Gilan during the defined time were randomly selected. The sample size was 196 drivers for each boundary based on the traffic volume of each boundary and type of vehicle.

Results: The mean age of the addicted and non-addicted subjects was 41.65±3.41 years and 39.63±2.11 years, respectively, with a significant difference (P=0.01). There were significant differences between addicted and non-addicted subjects with respect to some of the socioeconomic variables such as monthly income (P=0.001), owning home (P=0.001), owning car (P=0.001), ethnicity (P=0.016), and education (P=0.01). There were significant differences in the economic and cultural factors affecting addictive drug use between non-addicted and addicted subjects (P=0.001).

Conclusion: A significant difference in economic and cultural factors, ethnicity, and levels of education was observed between non-addicted and addicted subjects.

Keywords: Drug use, Commercial drivers, Capture-recapture

*Corresponding Author:
Dr. Elaheh Ainy,
Department of Vice Chancellor Research Affairs, Shahid Beheshti University of Medical Sciences, Tehran, Iran
Tel: +98 21 23872204.
Email: ainy.elaheh@gmail.com

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Introduction

The trauma caused by traffic accidents is one of the major causes of injury in Iran.[1] Drug use can increase the possibility of severe accidents by decreasing awareness and slowing reflexes of victims.[2]

Moreover, socioeconomic and cultural factors play a major role in the addiction of drivers.[3] Studies have shown that the tendency to use addictive drugs and family income levels have an inverse relationship[4] except for cocaine consumption, which is more common in high-income groups. Research has shown that there is a significant and two-way relationship between social factors and addiction. The type of occupation, workplace, and the nature of colleagues who are in contact with each other have an important influence on the tendency to consume addictive drugs.[4-6] On the other hand, unemployment and lack of job opportunities are factors that make one prone to addiction. Respect for the law and social norms is a barrier to the use of addictive drugs.[7]

Various social factors, including social pressures, socializing with unfit friends, access to drugs, parents' addiction, unemployment and job type, lack of respect for the law and customs, poverty, and low education levels were found to be effective in creating a tendency to consume addictive drugs.[8] Drivers of the public transport are at a greater risk of being trapped because of being away from family, insufficient income, fatigue and sleepiness, low levels of education, possibly a greater access to addictive drugs, and a particular network of friends.[9]

The severity of injury is higher in intercity highways.[10] Some social factors affecting traffic accidents include education, income, environment, and ethnicity.[11] Cultural

factors as other risk elements in driving also play an important role in the tendency toward taking addictive drugs.[12-14]

A study in the United States showed that the use of safety belts in both genders increased with higher levels of education.[15] A study in New Zealand showed that drivers who were at a lower level in terms of occupation and education were more at risk of suffering injuries.[16] In Vietnam, a study showed that people with higher education tended to buy helmets.[17] People having a low level of health literacy have problems understanding health information.[18] More than 75% of vulnerable people suffer from traffic injuries.[19] The prevalence of driving under the influence of illegal drugs in Iran is not exactly clear. The effect of using drugs has not received sufficient attention. Assessment of the effects of drugs on driving provides helpful insights about potential impact of economic, social, and cultural factors influencing drug use.

Owing to lack of accurate statistics on the economic, social, and cultural factors affecting accidents, a study was conducted in 2013 to determine the economic, social, and cultural factors influencing the consumption of drugs by drivers of public transport systems. The results of the research identified the most effective factor and gave corrective suggestions to reduce the impact of these factors and prevent injury.

Materials and Methods

The capture-recapture method was employed to determine drug use, its type, and the time of consumption among drivers of public transport.

At the capture stage, 384 of the samples were surveyed, and then (15 days later) at the recapture stage, 1176 drivers were randomly selected. The vehicles included buses (6.2%), vans (11.7%), minibuses (9.5%), all kinds of trucks (68.1%), and cars (4.5%). All drivers who crossed the boundaries of Hormozgan, Khuzestan, Khorasan Razavi, West and East Azarbaijan, Sistan and Baluchestan, and Gilan during the defined time were randomly selected. The sample size was 196 drivers for each boundary.

Initially, a valid and reliable questionnaire related to the economic factors (financial debt, long driving hours, cheap addictive drugs, financial problems, disregard of regulations), social factors (escape from social problems, escape from psychological problems, escape from physical pain, high experience of driving), and cultural factors (physical pleasure, lack of sleep, lack of rest and fatigue, focus on driving, curiosity) was filled by trained questioners and then urine samples were taken. Urinalysis was performed using the rapid diagnostic test (ACON, San Diego, USA).

Using SPSS version 20.0, the factors influencing drug use were presented in addition to providing descriptive and analytical statistics using Mantel-Haenszel methods, Kruskal-Wallis test, and Logistic regression model. In all the analyses, $P<0.05$ was considered statistically significant.

Results

The prevalence of addictive drug use among the drivers was 14.1% (Table 1) according to the following formula:

$$\frac{\#\text{recaptures in sample 2}}{\#\text{sample 2}} \approx \frac{\#\text{captures in sample 1}}{\#\text{ total population}}$$

The results of Kruskal-Wallis test showed that there were significant differences between the addicted and non-addicted with respect to some socioeconomic variables such as monthly income, owning home, owning car ($P=0.001$) and ethnicity and education ($P=0.\ 01$). Logistic regression model showed a significant statistical difference between addicts with educational level. Trailer drivers (21.5%) and truck drivers (15.1%) showed higher rates of drug addiction compared to other ones ($P=0.001$) (Table 2).

Among the components of social factors (escape from social problems, escape from psychological problems, escape from physical pain, high experience of driving), escape from social and psychological problems showed a significant difference compared to other factors among addicted and non-addicted subjects ($P=0.043$). The results of Mantel-Haenszel test showed that there was a significant difference between the social factors affecting the use of addictive drugs between addicted and non-addicted subjects (P =0.001). All the components of economic factors influencing the consumption of addictive drugs including financial debt ($P=0.002$), long driving hours

Table 1. Distribution of Demographic Characteristic Among Drivers of Public Vehicles

Variable	
Sex	
Male, No. (%)	1532 (98.2)
Female, No. (%)	28 (0.2)
Age	
Mean ± SD	39.9±9.7
Range (year)	(20-70)
Education	
≤12 years of education	94.5%
>12 years of education	5.5%
Kind of drug using	
Opium	55%
Others	45%
Number of driving years	
Mean ± SD (years)	12.85 ± 9.29
Driving time during the day	
Mean ± SD (h)	7.79 ± 3.11

Table 2. Comparison of Frequency and Percentage of Social, Economic, Cultural Factors Affecting Addictive Drug Use in Addicted and Non-addicted Subjects

Reasons	Factors	Non-addicted		Addicted		*P* Value
		Yes	No	Yes	No	
Escape from social Problems	Social	111 (7.4)	1177 (92.6)	10 (0.7)	200 (99.3)	0.271
Escape from psychological problems		190 (12.6)	1098 (87.4)	20 (1.3)	190 (98.7)	0.043
Escape from physical pain		315 (20.9)	973 (79.1)	28 (1.9)	182 (98.1)	0.322
High experience of driving		108 (7.2)	1180 (92.8)	12 (0.8)	198 (99.2)	0.156
Financial debt	Economic	226 (15.0)	1062 (85.0)	19 (1.3)	191 (98.7)	0.002
Long driving hours		515 (34.2)	773 (65.8)	39 (2.6)	171 (97.4)	0.001
Cheap addictive drugs		79 (5.2)	1209 (93.8)	5 (0.3)	205 (99.7)	0.028
Financial problems		259 (17.2)	1029 (82.8)	28 (0.9)	182 (99.1)	0.02
Disregard of regulations	Cultural	76 (5.0)	1212 (95.0)	28 (0.9)	182 (99.1)	0.016
Physical pleasure		171 (4.0)	1117 (96.0)	4 (0.3)	206 (97.7)	0.001
Lack of sleep		498 (33.1)	790 (66.9)	38 (2.5)	172 (97.5)	0.001
Lack of rest and fatigue		855 (56.8)	433 (43.2)	96 (6.4)	114 (93.6)	0.001
Focus on driving		92 (7.4)	1196 (92.6)	15 (1.0)	195 (99.0)	0.001
Curiosity		86(5.8)	1202 (94.2)	10 (0.7)	200 (99.3)	0.541

($P<0.001$), cheap addictive drugs ($P=0.028$), financial problems ($P=0.02$), and disregard for the provisions ($P=0.016$) showed a significant difference.

All the components of cultural factors (physical pleasure, lack of sleep, lack of rest and fatigue, focus on driving, and curiosity) except curiosity showed significant differences between addicted and non-addicted groups ($P=0.001$) (Table 3).

Moreover, drug addiction and income level showed no difference between addicted and non-addicted subjects.

There was a significant difference in the use of addictive drugs between addicted and non-addicted subjects in Arabs ($P=0.016$) and Gilakies ($P=0.007$), respectively. In other ethnic groups such as Persians, Kurds, Lours, Baluchies, Turkomans, and Turks, the differences between the addicted and non-addicted subjects were not significant. In addition, Mantel-Haenszel test showed a significant difference in terms of ethnicity and addiction to drugs ($P=0.04$). Arabs and Gilakies did not tend to take addictive drugs. The results of Chi-square test showed a significant difference in terms of ethnicity and addiction to drugs ($P=0.01$).

Table 3. Comparison of the Ethnicities in Addicted and Non-addicted Subjects

Ethnicity	Non-addicted		Addicted		*P* Value
	Yes	No	Yes	No	
Persians	662 (52.9)	590 (47.1)	122 (59.8)	82 (40.2)	0.146
Kurds	44 (3.5)	1209 (96.5)	13 (6.4)	191 (93.6)	0.231
Lours	74 (5.9)	1179 (94.1)	17 (8.2)	187 (91.8)	0.334
Baluchies	65 (5.2)	1188 (94.8)	12 (6.0)	202 (94.0)	0.412
Turkomans	22 (1.7)	1231 (98.3)	4 (2.0)	200 (98.0)	0.213
Turks	277 (22.1)	1026 (77.9)	33 (16.2)	171 (83.8)	0.172
Arabs	66 (5.3)	1187 (94.7)	3 (1.4)	203 (98.6)	0.016
Gilakies	42 (3.3)	1211 (96.7)	0 (0.0)	0 (0.0)	0.007

Discussion

The results showed significant differences between addicted and non-addicted subjects in terms of the economic variables (monthly income, owning home, owning car, financial debt, economic problems, and the cost of addictive drugs). The impact of cultural factors affecting the use of addictive drugs in drivers such as physical inability, lack of sleep, lack of rest and fatigue, ethnicity, and education were significantly different among the addicted and the non-addicted. Among the social factors affecting the use of addictive drugs, escape from psychological problems showed a significant difference compared to other factors in addicted and non-addicted subjects.

Poverty, as one of the social issues, affects deviations, especially in the field of addiction and theft. In families with high economic prosperity and income, human relationships are weakened by plenty of work or entertainment.[20]

The weakness of human relationships is itself an abating factor for drawing someone toward addictive drugs. The increase in the percentage of drug addicts in Western industrial societies suggests that with the growth of industries, human relationships have become weaker; besides, those with too much income created a favorable ground for both the consumption and sale of addictive drugs.[21] On the other hand, poverty can lead a person to smuggle drugs, with addiction as one of its consequences. The addicted person is weak and has no intention to work. Available statistics confirm the link between addiction and poverty.[22]

Studies have shown that addicted persons mostly live in

families with illiterate parents (64% of their fathers and 83% of their mothers were illiterate).[23]

Illiteracy is the cause of many issues, problems, social inequalities, and deviations. Irrational methods of educating children, neglecting the needs of children, not accepting changes in attitudes of young people, and emphasis on traditional methods and beliefs create a sense of loneliness and lack of confidence in persons, forcing them to seek sympathy and turn to anyone and any substance.[24]

In the present study, there was a significant relationship was seen between addiction and economic, cultural, and social status. Economic and social inequalities have many aspects that include inequalities in the distribution of material resources and in power, dignity, sex, and race.[25] Unfavorable environments can create a favorable context for individuals to commit crime and succumb to addiction. In these areas, involving mainly the poor, there are inadequate welfare facilities and people are forced into addiction simply to spend their leisure time.[26] Poor people and foreign migrants settle in old, crowded, and ruined neighborhoods that are far from town centers, and because they are often not occupied and not well-known, they find it easier to distribute addictive materials and to consume them as well.[27] The prevalence of addictive drugs in villages has typically therapeutic motivation. In this group of people, the use of addictive drugs is intended to achieve physical fitness. Some villagers use opium to relieve back pain, toothache, earache, and the like.[28] Social studies have shown that in countries where the distribution of wealth is not fair, social monitoring becomes loose, and crime and violence become commonplace.[15] Among the social factors, easy access to addictive drugs and unfit friends were effective ones. However, in the present study, there was no significant difference between addicted and non-addicted subjects in terms of the mentioned factors. In about 60% of the cases, the first use of drugs occurred when friends offered them.

There was a significant difference between addicted and non-addicted subjects in the most important influencing factors including cold and warm situation and lack of facilities. The study showed that the presence of an addicted person in the family increased the chance of addiction by 2.5 times.

In the present study, the use of addictive drugs by drivers going without rest and experiencing fatigue, and those of different ethnicities, showed a significant difference in addicted and non-addicted subjects. In a study aimed to determine fatigue as a hidden factor in the use of addictive drugs, it was observed that there were more social factors that demanded greater attention. This issue should be considered for effective addiction prevention programs and the formulation of future policies to prevent addiction especially among truck drivers.[29]

The present study showed that those with Arab and Gilaki ethnicity did not use addictive drugs. In a study conducted to determine the drivers' race as a factor contributing to addiction trends, it was observed that the incidence of addiction was nearly three times higher in a white population of 18–25 years of age than in Africans. This incidence in white women was almost six times higher than that in black women. The results confirm the role of race in the tendency to consume addictive drugs.[30]

Limitation

Owing to financial constraints, we could not check all the connecting aspects, which is an issue that can be considered as a limitation of the study.

Conclusion

Economic and cultural factors, ethnicity, and levels of education were significant among addicted and non-addicted subjects. These factors could increase the tendency toward addiction. Hence, more attention must be paid in planning preventive policies against drug addiction.

To reduce drug use among drivers we suggested that:

- The economic and social situation of drivers must be considered by the government in policy-making legislation.
- Ethnicity and culture should be kept in mind when planning programs to reduce the consumption of addictive drugs.
- The most effective ways of preventing addictive drug use could be tougher laws.
- Revocation of license, giving training, and driving ban for those under drug addiction should also be considered.
- Police, as the most important organization, should be responsible for preventing drug use.
- Increasing drivers' salaries, providing them with social services, and reducing their work time should be taken into account.
- Creation of resorts and terminals with amenities for drivers is of great importance.
- Motivation should be generated in addicted people to overcome addiction by considering treatment time as a work record and paying salaries during their treatment.

Conflict of Interest Disclosures

None.

Ethical Approval

The study was approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences (SBMU.REC.2013.709).

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