Environmental and familial factors in drug use among commercial drivers in suburban public transport

Elaheh Ainy, Hamid Soori

ABSTRACT

Background: A study was conducted in 2013 on the lack of accurate statistics on the environmental and family factors behind the use of drugs by drivers of public transport.

Materials and Methods: Overall, 1176 drivers of buses, mini-buses, vans, all kinds of trucks, and cars were randomly selected proportionately according to the type of vehicles. The capture-recapture sampling method was used to determine the prevalence rate of drug use among commercial drivers. Trained experts collected data regarding the environmental and family factors behind the use of addictive drugs. Urinalysis was performed by the Rapid Test method (ACON, San Diego, USA). To providing descriptive and analytical statistics the Kruskal–Wallis and Mantel–Haenszel methods, logistic regression, and Chi-square tests were used.

Results: The mean age of the drivers was 39.9 ± 9.7 years. The results of the experiment were positive in 14.1% of the drivers. A significant difference observed between addicted and nonaddicted drivers related to cold and heat (P < 0.001) and lack of facilities (P = 0.006) as the most influencing factors. The most important environmental factor was family poverty (P < 0.001), followed by marital status and its problems (P = 0.002), a large number of children (P = 0.006), and family disputes (P = 0.012). A family history of addiction was 2.5 times more among addicted drivers.

Conclusion: Prevalence of addiction was 14.1%. Among the environmental factors, cold and heat, lack of facilities, family factors, and a family history of addiction greatly influenced addiction.

Key Words: Addiction, commercial drivers, drug use, environmental factors, family factors, road traffic injury

INTRODUCTION

The environment plays a very decisive and effective role in the formation of human personality and behavior, which means the traits of a personality and their origin are largely derived from the environment. The assumption of social roles provides the opportunity and the field to an individual to express oneself through face-to-face interaction. Role-play, self-assertion and institutionalization of social identity in a person help face social identity problems. Susceptibility to despair, anxiety, and inappropriateness are among many psychological abnormalities and problems that promote an individual’s tendency toward seclusion and isolationism.[1]

To overcome this loneliness and isolation, the individual develops addiction and tries to heal this feeling through drug dependence.[2] Diagnosis of the effective risk factors in accidents is very important to identifying effective
interventions to reduce accidents.[3] Traffic accidents occur as a result of a set of road, environmental, vehicular, user, and interaction factors.[4] Environmental factors cover a lot of things including the location of the accident, the design of the road, the speed limit imposed, the facilities for pedestrians, the protective objects at the accident site, rescue facilities, traffic congestion, water conditions, air (overheating, and stormy weather) on the road, lack of recreational facilities, accident time, road defects, illumination, road surface, and geometric location.[5,6] Environmental factors leading to accidents and subsequent deaths in Iran include foggy air, oily road surface, incorrect markings, narrow roads, and up and down roads.[7]

The design of the transportation system has direct and indirect effects on the health of individuals. Inadequate and inappropriate roads lead to overcrowding and increased incidence of accidents. Overspeeding affects the consequences of an accident.[8] The physical design of the road and its surroundings may or may not encourage drivers to notch up high speed.[9] Talking on the phone diffuses the driver’s focus on keeping control.[10] The effect of the use of addictive drugs or the unauthorized use of these drugs is different depending on the type of effect these substances have on the human brain.[11] These materials can affect driving skills in respect of balance and coordination, understanding, gauging one’s distance from other vehicles, anticipating the behavior of other drivers, level of attention and accuracy, timely judgment and reaction and ultimately, the driver’s problem-solving skills.[12]

In our country, the issue of opiate addiction in motorist has been studied.[7] Environmental and family factors play an important role in the use of drugs among public transportation drivers. A study was conducted in 2013, regarding the lack of accurate statistics on the environmental and family factors behind drug use among public transport drivers. To ascertain to find which factors have the most effect on the tendency to drug use.

**MATERIALS AND METHODS**

In a cross-sectional study (August 1, 2013–December 25, 2013), the prevalence of addictive drug use and its type and the time of consumption were measured using the capture-recapture method. In this sampling method, first, a positive sample was taken from the community to be considered and abandoned. Then, another sample from the same society was taken, assuming the second instance represented a real sample of the society. The fraction of people tagged in this sample was about the same fraction of the labeled individuals in the community. So, if the total number of people in the community is N and the number of samples is n1, and the number of the second sample is n2, and if one of the indicative subjects is found in the second instance, then n1/N = a/n2 and the estimate N = n1n2/a. At the capture stage, 384 of the samples were surveyed and at the recapture stage, 1176 drivers were randomly assigned from drivers. In terms of numbers, 62% were buses, 11.7% vans, 9.5% mini buses, all kinds of trucks 68.1%, and 4/5% cars. All drivers who crossed the boundaries of Bandar Abbas, Khuzestan, Mashhad, Tabriz, Zahedan and Rasht during the defined time were selected. The sample size was 169 drivers for each boundary.

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n = \frac{Z_{\alpha/2}^2 \times P (1 - P)}{d^2} \frac{1}{96} \times 1/96 \times 0 / 5 (1 - 0 / 5) = 196
\]

Initially, a valid and reliable questionnaire, related to the environmental and family risk factors, was filled by trained questioners then, urine samples were taken. Urinalysis was performed by the Rapid Test for urine (ACON, San Diego, USA). The following aspects were considered when using the kit. The approximate time of tracking different substances in the urine is as follows: cannabis: 1 day–4 weeks, heroin: 3–4 days, morphine: 2–3 days, methadone: 2–3 days, amphetamine: 1–3 days, cocaine: 2–4 days, and benzodiazepine: 3 days–3 weeks. The study was approved by the ethics committee of Shahid Beheshti University of Medical Sciences. Using SPSS version 20, the factors influencing drug use were presented in addition to providing descriptive and analytical statistics with the Kruskal–Wallis and Mantel-Haenszel methods, logistic regression, and Chi-square tests. P < 0.05 was considered as a significant level.

**RESULTS**

The results of the experiment in 14.1% of the drivers were positive. The results showed that the driving time was 7.79 ± 3.1 h per day. The family size in nonaddicted persons was 2.92 ± 1.7 and in the addicted group was 2.53 ± 1.7. The types of narcotic drugs used were opiate (74.9%), cannon (1.9%), diazepam (0.3%) morphine (2.3%), heroin (0.9%), amphetamine (0.7%), Crystal or Methamphetamine (8.1%), crack (0.7%), naloxone (0.2%), and benzodiazepine (0.1%). Table 1 shows the most commonly used drugs used by public transport drivers. Nearly two-thirds of them use opium (74.9%).

The findings of Table 2 show that among the environmental factors there is no significant difference between the addicted and nonaddicted, and the existence of addicted friends and the pressure of colleagues’ insistence. Cold and hot situations (P < 0.001) and lack of amenities (P = 0.006) show a significant difference between addicted and
nonaddicted drivers. Other environmental factors also had a significant difference between addicted and nonaddicted drivers ($P = 0.04$).

Table 3 shows that among the affecting family factors there are no significant differences between parents’ addiction and lack of religious beliefs among addicted and non-addicted drivers. The most important affecting factor was family poverty ($P < 0.001$), followed by marital status and its problems ($P = 0.002$), a large number of children ($P = 0.006$), and family disputes ($P = 0.012$).

A Kruskal–Wallis test showed that, in addicted and nonaddicted drivers, there was significant differences between having welfare facilities, rest during fatigue, and having auxiliary driver with addiction ($P < 0.01$). The average percentage of drivers who consistently and enthusiastically consume drugs was $43.1 \pm 25.5$, with a median of 40%, and $29.4 \pm 24.4$, with a median of 20%, in addicted and nonaddicted drivers respectively. It should be noted that the highest and lowest percentages of continuous drug use or for amusement was reported at 0% and 100% respectively.

More than one-third of drivers mentioned that a good time to consume drugs was at night. Based on views of 44.2% of drivers, the main cause of drug use was increasing driving power, sleep deprivation, and fatigue reduction.

Results show 53.4% of drivers believe that the problem of addiction is related to the presence of addicted persons in the family. Based on logistic regression, the chance of addiction increased by 2.5 times in the presence of an addicted person in the family (confidence interval: 95%, 1.74–3.78).

The average duration of drivers’ addiction was $8.8 \pm 7.1$ (median = 6) years.

**DISCUSSION**

The results of the study showed that the prevalence of drug use was 14.1%. The most important affecting environmental factor was cold and heat and lack of amenities. A comparison of addicted and nonaddicted drivers showed a significant difference in the mentioned factors. The most influential factors were family poverty, marriage and its problems, and a large number of children and relatives, and family disputes. A significant difference was also observed in the association of welfare facilities, resting during fatigue, and having a helping hand with addiction between addicted and nonaddicted drivers.

Nearly half the drivers mentioned that enhancing driving power, sleep deprivation, and fatigue reduction were the main causes of drug use.

More than half of the drivers believed that the presence of an addicted person in the family was related to their addiction problem. The presence of an addicted person in the family increased the chance of addiction by 2.5 times. Nearly half of the drivers believed that cargo car drivers were more at risk of addiction. One-third of the drivers said a good time to take drugs was at the night.

If parents are addicted, on the one hand, it reduces their control over their children, and on the other, it is the cause of the transfer of this habit to children. But sometimes some of children avoid this trait because of disgust for the parents’ behavior and the habit, but such parents play a major role in their children’s addiction. Studies have shown that many addicted drivers had addicted person in their families, such as father, mother, or grandfather. Studies showed that as long as members of the community are bound by their religious beliefs, they and their children do not fall for corruption and delinquency. Poverty, as one of the social issues, affects deviations and increases rates especially in the area of women’s crimes, addiction, and theft. The role of the city’s geographical environment including the border cities, where drug trafficking is easily carried out, as well as the place of residence, has
a major role in the trend toward addiction.\[17,18\] Other environmental factors behind crime include poverty, unemployment, inflation, and bad economic conditions, which affect all communities, groups, and institutions.\[19\] The results of the research showed that the environment plays a very decisive and effective role in the drivers’ personality and behavior.\[20\] The issues related to poor management in the family can create many problems for children. Parental conflict creates a chaotic environment. The child tries to get away from home and spend time with their friends.\[21-25\] The existence and prevalence of addiction in the public transport sector is increasing due to the importance of the vast group of drivers and a close relationship drivers’ lives have in the potential to create a crisis for a large segment of society.\[26,27\] With the use of various strategies, it is possible to diminish the role of drug abuse and its addictive effects.\[28-30\] Using the capture-recapture sampling method to determine prevalence rate of drug use among commercial drivers was the strength of this study. There was a possibility that the drivers would aware via other drivers that they were being tested in different axis, it could be considered as a limitation of the study. Simultaneous time testing in all axes could reduce this possibility.

**CONCLUSION**

In the studied population, prevalence of addiction was 14.1%. Among the environmental factors, cold and heat, lack of facilities, and family factors and the family history of addiction had a greater effect on addiction. Addiction test done by the police can be an effective way to reduce addiction. Providing amenities for drivers, solving livelihood problems, planning for drivers aged between 30 and 50 and truck drivers, controlling the entry of opium and glass into the country, reducing the hours of driving, and driving ban against addicted drivers until complete cure could be effective in reducing and stopping the use of drugs among drivers.

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**Conflicts of interest**

There are no conflicts of interest.

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