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Investigating the mental health of intercity public transportation drivers

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Abstract

Introduction: Drivers' role is essential in road accidents. In other words, they deal with public safety and health. The current research investigated the mental health of intercity public transportation drivers.

Materials and Methods: This descriptive-analytical research was conducted on 70 intercity public transportation drivers in Gorgan City, Iran. After coordinating with the Intercity Bus Organization of Gorgan, the drivers were randomly selected. They completed the demographic information and the General Health Questionnaire (GHQ-28). The data were analyzed using SPSS 23, descriptive statistics, and independent t-test.

Results: Sixty-nine (98.6%) drivers were married, with a mean age of 39.05 ± 5.82 years. The ethnicity of most drivers (81.4%) was Fars. The mean duration of driving was 10.15 ± 4.45 years. The highest general health score was related to the anxiety and insomnia subscale, equal to 15.17 ± 3.98 (P= 0.813), and the lowest score was related to depression, equal to 10.55 ± 4.05 (P= 0.229). The level of depression was higher in Fars drivers than in those with other ethnicities (P= 0.008).

Conclusion: The intercity public transportation drivers have mental health problems, mostly encompassing anxiety and insomnia. Given the role of drivers in society, it is recommended that municipal officials pay more attention to their mental health.

Keywords: Drivers, Mental health, Public transportation

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Introduction

The World Health Organization (WHO) describes health as complete physical, mental, and social well-being. An individual with mental health has three principal characteristics, including a sense of comfort, a proper feeling toward others, and the capability to satisfy the needs of life (1). The mortality rate due to traffic accidents is higher in low-income and middle-income countries than in developed

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countries (2,3). More than 90% of deaths in this regard have occurred in developing countries (4). A general estimate of road accidents indicated that 80%-90% of all accidents are caused by human factors (5). Therefore, the drivers' physical and mental health is crucial in driving (6), playing a substantial role in road accidents (7). The increased adrenaline in the blood of drivers on heavy-traffic days can cause much tension and may diminish their precision and judgment (8). In some studies, more than half of the drivers have experienced sleep problems (9-11), a high percentage of them experience anxiety and depression (11,12), generalized mental disorder, mood and somatic disorders (11). About two-thirds of drivers have experienced substance abuse (13). Given that the drivers are responsible for transporting many passengers daily, and in other words, they are responsible for public safety and health, the present research was conducted to investigate the mental health of intercity public transportation drivers.

Materials and Methods

The current descriptive-analytical research was conducted on 70 intercity public transportation male drivers at bus terminals in Gorgan City, Iran. Based on Koohpaei et al.'s study (14), the sample size was 64 people using Cochran's formula for a limited population and considering the prevalence of 35.89% of psychological disorders and also an error estimate of 5% with a confidence level of 95% and considering the limited population of drivers in Gorgan (about 300 people). Considering the probability of a 10% drop, the sample size was 70 people.

The inclusion criteria included having an identification code as a public transportation driver and consent to participate in the study. The exclusion criteria included reluctance to participate in the study. After approving and obtaining the code of ethics from the Golestan University of Medical Sciences, the researcher went to the Gorgan Bus Organization. After coordination, the drivers were randomly selected using the driver's identification code. The researcher went to the intercity bus terminals and met the drivers, explained the necessity of implementing the project, and obtained their written informed consent.

Research instruments

A) Demographic Checklist: It includes age, marital status, ethnicity, occupational history as an intercity public transportation driver (less than 5 years, 5-10 years, 10 years and above), and history of substance abuse.

B) The General Health Questionnaire (GHQ-28): This questionnaire contains 28 questions and 4 subscales. The questions examine the individual's mental health status in the last month. Each subscale includes 7 questions, including the following subscales: Physical symptoms (questions 1-7), anxiety and insomnia (8-14), social dysfunction (15-21), and depression (22-28). All questions have four options and scored using Likert methods (0-3). The subject's maximum score in this questionnaire is 84, and the cut-off score is over 23. A score over 23 denotes mental health problem, and a lower score indicates the subject's mental health (15,16). In Taqavi's study in Shiraz, using the three methods of test-retest, half-split, and Cronbach's alpha, the validity of the GHQ-28 was obtained to be 0.7, 0.93 and 0.9, respectively (17).

Results

The current study was conducted on 70 intercity public transportation male drivers in Gorgan, Iran. The drivers' mean age was 39.05 ± 5.82 years, with the minimum age of 26 years and the maximum age of 51 years. Among the drivers, 69 people (98.6%) were married, and only one (1.4%) was single. In terms of ethnicity, the highest frequency belonged to Fars ethnicity (n= 57, 81.4%), and the least frequency belonged to Turkmen ethnicity (n= 2, 2.9%). The data of the drivers' age were evaluated using the Shapiro-Wilk test, which had no normal distribution (*P*= 0.0001).

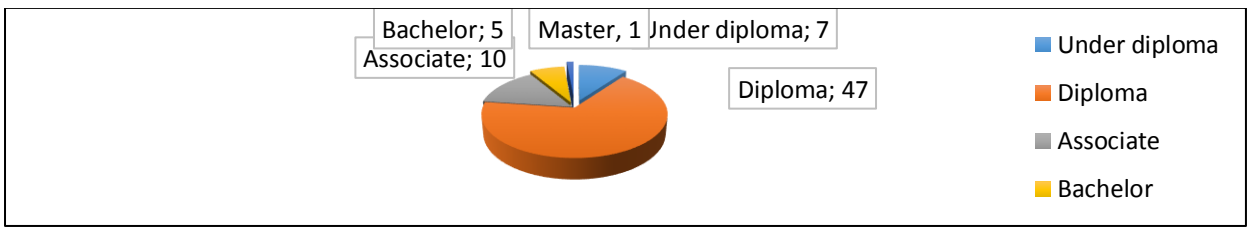

Diagram 1. The frequency of drivers' education level

The highest frequency of education level in the drivers was diploma and the least to master's degree (Diagram 1). The mean years of driving was 10.15 ± 4.45 years (minimum= 4 years, maximum= 20 years). The data regarding the years of driving were also assessed using the Shapiro-Wilk test, which showed no normal distribution (*P*= 0.0001).

Among the drivers, 59 people (84.3%) were not smokers. The GHQ-28 and its association with the variables were evaluated in all four subscales. The highest score was related to the anxiety and insomnia subscale (15.17 ± 3.98), followed by social dysfunction (13.75 ± 2.73), physical symptoms (12.95 ± 4.01), and depression (10.55 ± 4.05).

The cut-off point of the subscales was obtained to be 17. Accordingly, the frequency of symptoms of anxiety and insomnia was 22 (31.4%), physical symptoms were 12 (17.1%), social dysfunction was 11 (15.7%), and depression was 8 (11.4%) (Table 1).

Table 1. The scores of different subscales of the General Health Questionnaire in drivers

Subscale	Mean	Standard Deviation	Minimum	Maximum
Physical symptoms	12.95	4.01	8	28
Anxiety and insomnia	15.17	3.98	9	26
Social dysfunction	13.75	2.73	9	23
Depression	10.55	4.05	7	22

These scores were evaluated according to different variables. Among them, only the depression scores of Fars drivers were higher than those of other ethnicities, which were statistically significant (*P*= 0.008), but, in other cases, they showed no correlation with the variables (*P*> 0.05) (Table 2).

Table 2. The subscales of the General Health Questionnaire according to different variables in drivers

Variable		Physical symptoms	Anxiety and insomnia	Social dysfunction	Depression
Age	37 and less	12.47±3.86	15.05±3.92	13.34±2.76	9.97±3.50
	Over 37 years old	13.17±4.21	15.28±4.10	14.17±2.67	11.14±4.51
P		0.659	0.813	0.207	0.229
Education	Diploma and under diploma	12.58±4.24	14.96±4.20	13.74±2.95	10.09±3.64
	Higher than diploma	13.31±3.23	15.87±3.15	13.81±1.86	12.12±5.01
P		0.690	0.426	0.927	0.078
Smoking	Yes	12.94±4.29	15.27±4.20	13.93±2.75	10.64±3.99
	No	13.00±2.09	14.63±2.61	12.81±2.52	10.09±4.50
P		0.970	0.631	0.217	0.681
Ethnicity	Fars	13.08±4.11	15.40±4.04	13.84±2.87	11.15±4.11
	Other	12.38±3.66	14.15±3.71	13.38±2.02	7.92±2.46
P		0.573	0.312	0.590	0.008
Years of driving	10 years and less	12.54±4.39	15.46±4.11	13.35±2.76	10.58±4.02
	Over 10 years	13.51±3.48	14.80±3.85	14.25±2.64	10.51±4.15
P		0.303	0.499	0.173	0.940

Discussion

In the current study, the highest score based on the GHQ-28 was obtained for the anxiety and insomnia subscale, followed by social dysfunction, physical symptoms, and depression. Moreover, in terms of frequency, the sequence of the subscales was anxiety and insomnia symptoms, physical symptoms, social dysfunction, and depression, respectively. In Koohpaei et al.'s study, social dysfunction and anxiety symptoms had the highest scores, followed by physical symptoms and depression, which is almost consistent with the current study (14). Despite the different methodology, Davidson et al.'s study also indicated relatively high symptoms of mental disorders, such as anxiety and depression, in public transportation drivers (18). Junior et al.'s study conducted in Bahia states indicated that the prevalence of mental disorders among intercity taxi drivers was 25.6%. These researchers acknowledged that the drivers' mental state significantly influenced their quality of life, social relationships, physical health, and environmental interactions (19). Due to long driving hours, improper sitting,

insufficient nutrition, heat, cold, and noise, drivers are more susceptible to physical disorders, such as headache, backache, and pain in the legs, as well as mental health disorders such as anxiety and depression (20).

In the present research, no correlation was found between the drivers' mental health and their age, education level, smoking, and years of driving. The results demonstrated that young drivers experienced more mental health problems, and their risky behavior culminated in more accidents and injuries. Drivers over 35 had more physical problems affecting their driving (21-23).

In the current study, drivers aged 37 years and above had higher scores regarding physical symptoms, but they were not statistically significant. The lack of association may be attributed to a slight age difference between the drivers in the present study.

Some other studies have suggested low education, marital status, years of driving experience (24), and history of drug and alcohol consumption as factors affecting the drivers' mental health (18,25).

In the current research, most participants were married, had a diploma or higher education level, and had no smoking history. This issue could be the reason for the discrepancy in the results. In this study, the depression scores were higher in Fars drivers than in drivers from other ethnicities, which was statistically significant. This discrepancy seems to stem from the unequal population of these two ethnicities in Gorgan City. Thus, no relationship was found between ethnicity and other variables.

Conclusion

Intercity public transportation drivers suffer from mental health problems, mostly encompassing anxiety and insomnia. Given the role of drivers in society, it is recommended that municipal officials pay more attention to their mental health. In addition, since driving is a stressful occupation, it is recommended that a comparative study be conducted on drivers of other public vehicles.

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Conflict of Interests

The authors declare no conflict of interest.

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Ethical Considerations

This research has been extracted from a thesis in general medicine at Golestan University of Medical Sciences

Code of Ethics

IR.GOUMS.REC.1396.154

Authors' Contribution

Mohammad Zaman Kamkar and Saeed Khaledi: Study conceptualization and study design; Saeed Khaledi: Data collection; Zoleikha Karam Elahi: Data analysis and interpretation; Saeed Khaledi: Original draft preparation; and Mohammad Zaman Kamkar and Zoleikha Karam Elahi: Study review.

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