Original Article

Risk Factors Associated With Health And Wellness of Professional Automobile Drivers Of Karachi, Pakistan

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ABSTRACT:

Objective: To identify the health status and well-being of the professional automobile drivers and associated risk factors that affect their health.

Study Design and Setting: A cross-sectional study was conducted among 350 professional automobile drivers operating on local and long routes in Karachi, Pakistan

Methodology: The study was done at various locations in the city of Karachi from September to November 2017. The subjects were asked for their personal health related complaints and medical illnesses. Further, this research also has the complimentary purpose to measure anxiety and depression among professional drivers. Anxiety was measured using the Generalized Anxiety Disorder-2 Item Scale (GAD-2) and Patient Health Questionnaire2-Item Depression Module (PHQ-2) was used to measure, depression. SPSS version 21.0 was used for data entry and its analysis. A written informed consent about the study was provided to the subjects with questionnaire. This study was approved by the Institutional/Ethical review board of Karachi Institute of Medical Sciences (KIMS).

Results: Amongst the 350 participants 48% were long route and 52% were local route automobile drivers. The result indicate that professional automobile drivers were suffering from backache (56%), Joint pain (36%), Hypertension (44%), Diabetes Mellitus (21%), Anxiety (87%) and Depression (38%). Tobacco addiction was found in (94%) of total respondents.

Conclusion: Health status of the professional drivers and their well-being was found unsatisfactory. Multiple factors such as working environment and sociodemographic factors are inevitably linked to their health status and wellbeing.

Keywords: automobile drivers, professional drivers, joint & backache, anxiety, depression, tobacco addiction

INTRODUCTION:

Professional automobile driving, undoubtedly, a very complex and demanding task. A professional automobile driver is a term used for the drivers who are skilled and qualified to drive vehicles and earns their income from driving. Transportation industry which requires healthy and skilled drivers, plays a vital role not only in the daily human life but, also contributes largely to the state's economic development. Millions of people are linked to the commercial transport business across the globe by adding their contribution to this industry, hence sharing economic growth.[1] Most of the developed countries have a highly competitive transport system and the governments invest a lot in every sector for its advancement. [2] Continuous monitoring and evaluation help to make better policies and a continuous data is always available. Unfortunately, many developing countries are still struggling to establish a stable transportation system. However, the most common problem being observed in this profession, throughout the world, is the poor health status (physical and mental) of drivers. [3,4,5] Multiple factors that contribute in deteriorating the mental and physical health are continuous driving (for more than 8 hours), long waiting for passengers or for refilling or reloading, difficult and stressful driving conditions, monotonous and repetitive work, lack of education and low socio-economic status.[6] Moreover, transport of hazardous materials and wastes (the nature of which is often not known to workers), exposure to noise, vibration and pollution are some very important health risk factors. [7] In addition to the above, irregular timings and unavailability of proper and quality meal lead to malnourishment and frailty in professional drivers. [8] There is also a huge burden of ergonomic hazards especially musculoskeletal disorders among these drivers like back and joint pain, cervical problems and other injuries caused by lifting weights. Poorly designed driving seats that cannot be adjusted according to comfort, often result in chronic backaches or other musculoskeletal problems that worsen with time. [9]

Since long, numerous studies are being carried out throughout the world to observe the health status of drivers. [10, 11] Mental illnesses among professional drivers are found highly prevalent, out of which the most common are job related

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stress, anxiety and mild to moderate depression. [5] However, these problems get worse when either, they are not taken seriously as health issues or, if primary health care centers lack the facilities to cater mental health problems. Compromised physical health is itself a contributing factor towards deteriorating mental health. [12] All these issues not only lead to miserable life of such families but also contribute a lot to the increased incidence of road traffic accidents. [13] Hence, the current study aimed to identify the health issues among professional automobile drivers and their health status in the metropolitan city of Karachi. The findings of this study may be helpful to reduce the sufferings and upgrade the life style of drivers which ultimately will contribute to the state's economic growth.

METHODOLOGY:

This cross sectional survey was performed among professional automobile drivers working on a transportation industry from September 2017 to November 2017. Sample size was calculated using Epi Info – 7 for cross sectional studies. A total of 350 drivers were recruited through non-probability, purposive sampling technique randomly without consideration of their health status from various location of commercial areas of Karachi, Pakistan. Data was collected from drivers from loading trucks stands, passengers buses points (inter or intra city both) and taxi stands of different areas of Karachi, irrespective of the drivers city of residence. Only male and adult drivers between 18 -60 years of age with valid national identity cards and driving license were included in the study. Respondents were explained about the purpose of the study and asked to sign a consent form to participate in the study. Keeping in view the aims of the study a specially designed detailed questionnaire was prepared. The first section comprised demographic information such as age, gender, area of residence, education, income and driving experience etc. The second section consisted of variety of open and closed ended questions regarding their health issues such as hypertension, diabetes, heart disease, lower back pain, joint pain or generalized body aches and disturbed sleep. Severity of pain was assessed by WHO criteria. [14] The drivers were also screened for anxiety and depression. For this purpose Generalized Anxiety Disorder-2 Item Scale (GAD-2) and Patient Health Questionnaire2-Item Depression Module (PHQ-2) were used to screen out anxiety and depression respectively. GAD-2 [15, 16] and PHQ-2 [17, 18] are well validated measures to screen out and monitor depression and anxiety. Due to construct and criterion validity, PHQ-2 is a proven attractive measure for depression screening. Each ranges from a score of 0-6. The operating characteristics of these ultra-brief measures are quite good; the recommended cut points for each when used as screeners is a score of 3 or greater. Higher the score, the more likely there is an underlying anxiety or depression. Therefore, those who scored high were counseled

about their condition and were advised to consult psychiatric outpatient department for further evaluation. The data was collected by health workers and essential instruction were directed to the subjects. The questionnaire of each and every driver were thoroughly seen and checked by the investigators for missing data/information. The study was carried out after approval of Institutional and Ethical Review Board of Karachi Institute of Medical Sciences, Karachi. SPSS-21 was used for data entry and analysis of data collection. The traits of study population were observed through frequencies and percentages, as assessed descriptively.

RESULTS:

Sociodemographic characteristics of the participants (350) are shown in Table 1.

Table 2 depicts the types of vehicles used by the drivers and their regular routes of driving. Almost comparable numbers of the vehicles in the sample were running on long and local routes i.e. 48% and 52% respectively. Amongst both of these groups, buses were most common.

The physical and mental health status of the study participants is shown in table 3. More than half (56%) of the drivers suffered from lower back pain with varying degrees of severity and 36% mentioned joint pain. 44% of them had hypertension whereas known diabetics were 21%. Majority of the sample population (94%) was cigarette smokers while 40% chewed naswaar among which mostly were Pathans (Pashto speaking). Regarding the mental health status, Anxiety was found to be most prevalent in the sample population (87%).

DISCUSSION:

Professional driving has been shown widely a challenging in terms of health outcomes and its associated risk especially in urban cities of the world. Health status and wellbeing of the drivers has a significant impact on the safety of the drivers [19] as well as the passengers. Driver's health status plays an important role in the occurrence of the accidents that makes professional driving a potentially high risk activity. [20] Various researchers have found the relationship between physical, mental and social stressors with the wellbeing and professional performance of the drivers.[19,20,21,22,23] The analysis of the gathered information of this study revealed that lower back pain, joint pain and other posture related musculoskeletal disorders are common among professional automobile drivers. Results of National Health survey of Iran highlighted musculoskeletal disorders as the most prevalent in professional automobile drivers. [21] The findings were consistent with previous work in other countries and found symptoms related to lower back and joints are common in drivers. [20,22,23] The space of the driver's cabin might be the reason which usually does not have enough space for the movements of his limbs and body and they must restrict to driving cabin throughout the journey.

Table 1: Sociodemographic Characteristics of the participants n= 350

Characteristics	Descriptive
Age, years, mean (SD)	38.0 (9.2)
Marital status, n (%)	
Married	315 (90.0)
Unmarried	21 (6.0)
Divorced/widower	14 (4.0)
Education, n (%)	
Not able to read/write	74 (21.14)
Primary, = 5 years	98 (28.0)
Secondary, 6-10 years	126 (36.0)
High school up to 14 years	52 (14.85)
Religion, n (%)	
Muslims	311 (88.85)
Hindus	18 (5.14)
Christians	21 (6.0)
Ethnicity, n (%)	
Urdu speaking	45 (12.85)
Sindhi	21 (6.0)
Punjabi	91 (26.0)
Pathan	126 (36.0)
Sariki	39 (11.14)
Others	28 (8.0)
Monthly income in PKR n (%)	
< 20,000,	224 (64.0)
20,000-40,000	84 (24.0)
40,000-80,000	29 (8.28)
> 80,000	13 (3.71)
Years of driving, n (%)	
1-5 years	46 (13.14)
6-10 years	68 (19.42)
11-20 years	140 (40.0)
>20 years	96 (27.42)
BMI, (kg/m²),mean (SD)	22.8 (5.3)

Table 2: Types of vehicles regarding local and long routes (n=350)

Types of vehicles	Descriptive
Long route vehicles	n=168(48.0%)
Bus, n (%)	81 (23.14)
Truck, n (%)	52 (14.85)
Trailer, n (%)	35 (10.0)
Local route vehicles	n=182(52.0%)
Bus (mini/coach), n (%)	63 (18.0)
Taxi, n (%),	56 (16.0)
Mini trucks, n (%)	35 (10.0)
Rickshaw, n (%),	28 (8.0)
Total, n (%)	350 (100.0)

This immobile position causes joints and muscles stiffness that further aggravates and worsens from spending long duration behind the wheels.

Strain due to working environment can be related to engaging

Table 3: Physical and mental health status (n=350)

Health Problems	Frequencies n (%)	Health Problems	Frequencies n (%)
Lower Back Pain		Tobacco Addiction	
Mild	14 (4.0)	Smoker	329 (94.0)
Moderate	49 (14.0)	Non-Smoker	21 (6.0)
Severe	91 (26.0)	Naswar*Addiction	
Very severe	42 (12.0)	Yes	141 (40.28)
No pain	154 (44.0)	No	209(59.71)
Joint pain		Difficulty in sleep	
Yes	126 (36.0)	Yes	105(30.0)
No	224 (64.0)	No	245 (70.0)
Hypertension		Anxiety	
Yes	154 (44.0)	Yes	305 (87.14)
No	196 (56.0)	No	45 (12.85)
Diabetes		Depression	
Yes	74 (21.14)	Yes	133 (38.0)
No	276 (78.85)	No	217 (62.0)

*Naswar: Naswar is a moist, smokeless powdered tobacco snuff. Usually, it is stuffed in the floor of mouth under the lower lip or inside the cheek, for extended period of time.

in harmful health behaviors that leads to developing diabetes mellitus and hypertension. Unavailability of healthy meals with disturbed pattern of timings and duration are common among drivers. As a result poor food choices that are low in nutrition value but high in calories, fat and sugar along with sedentary environment lead to excessive energy intake and nutrition related morbidities such as hypertension and type-2 diabetes mellitus. [24,25] The results of the foregoing study also indicates 44% and 21% drivers suffer from hypertension and diabetes mellitus. Evidence supported that unhealthy eating patterns, life style and stressful environment are the common risk factors in developing hyperchole-sterolemia, cardiovascular diseases and type-2 diabetes mellitus among professional automobile drivers. [24, 25, 26]

According to the World Health Organization (WHO) cigarette smoking has been identified as an epidemic worldwide [27] and were described a stress relieving devices. [28] Despite the growing awareness regarding association of tobacco consumption with a range of adverse health effects tobacco consumption has been considered as a stress reliever either in the form of cigarette smoking or in chewable form. Results of this study showed that 95 and 39 percent of participants were addicted to tobacco and Naswar. The main reasons that may explain why higher number of drivers smoke are; stress caused by the working environment, peer and social influence and socioeconomic status and education. The socioeconomic status and education of the study participants was unsatisfactory as more than half of them (57%) earned less than 20 thousands/month and majority (85%) have education below secondary. Use of tobacco might be a way of stress management and a mode of taking out and coping

with the stressful environment due to above mentioned circumstances.

Consumption of tobacco either in the form of smoking or in chewable form, is known to be harmful to brain. [29] Many epidemiological studies have demonstrated smoking as being prospectively associated with increased rates of anxiety disorders [29, 30] Similar results were reported in this research, as 78 and 39 percent of the participants were suffer from anxiety and depression, respectively. Moreover, the findings support the epidemiological evidences regarding increase risk of developing anxiety due to tobacco consumption, although confirmation of this causality is yet to be confirmed.

This study compels all the stakeholders of the transportation industry to take relevant measures and the health authorities to enforce road transport workers ordinance, 1961, (amended in 1974), the West Pakistan Industrial and Commercial Employment (standing orders) Ordinance 1968. The ILO (International Labor Organization) suggest hours of work and rest periods (road transport) Convention (no. 153), 1979, that requires a break after 4 hours of driving, limits total driving time to 9 hours per day and 48 hours per week and recommends at last 10 hours of rest in each 24- hour period, need to be followed which is not yet ratified by Pakistan.

The cross sectional design and survey was used to measure parameters of this research. Scientifically, the cross sectional design does not clarify the cause and effect. However, the outcomes of the study complies with the data of the existing literature. The results of this research will explain and clearly interpreted with use of longitudinal methods and is recommended for future research.

CONCLUSION:

This study aimed to ascertain health issues experienced by drivers related to their profession. The findings provides further support to the existing researches from other countries. Multiple factors such as working environment and sociodemographic factors are inevitably linked to their health status and wellbeing of the drivers.

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