The prevalence of stress, stressors and coping mechanisms and the socio-demographic factors associated among the auto-rickshaw drivers in Bengaluru city, India

Amey Joshi, Raveendra H. R. Reddy, Anurag Agarwal

Department of Community Medicine, Vydehi Insitute of Medical Sciences and Research Centre, Bengaluru, Karnataka, India

ABSTRACT

Context: Socio-demographic and environmental factors attribute to stress for auto-rickshaw driver leading to compromise of driver and passenger safety. **Aims:** This study assesses the prevalence and socio-demographic factors associated with stress and identifies the stressors and coping mechanisms in auto-rickshaw drivers. **Settings and Design:** A cross-sectional study was conducted amongst 140 randomly selected auto-rickshaw drivers in Bengaluru city, India. **Methods and Material:** Data was collected at a place and time convenient to the study participants using semi-structured pre-tested tool. Stress was assessed using Cohen's Perceived Stress Scale. **Statistical Analysis:** Data was entered and analyzed using Epi Info™ software. Two sample t/ANOVA tests were used to compare the difference in means and standard deviations (SD) between the sub-groups. *P* <0.05 was considered statistically significant. **Results:** Mean age of the auto-rickshaw drivers was 32.8 ± 8.3 years, majority belonged to the 25-30 years age-group. About 55.7%, 40.7% and 28.7% were consuming tobacco products, alcohol and some both, respectively. While the prevalence of self-reported stress was 76.4% ($n = 107$), 78.6% ($n = 110$) had stress based on Perceived Stress Scale (PSS) assessment. Mean PSS for participants self-reporting stress was 20.51 ± 5.25 as against 12.36 ± 4.98 who did not ($P < 0.001$). The mean PSS was 17.55 ± 4.13, 20.65 ± 5.23 and 23 ± 5.12 among those who self-reported having mild-, moderate- and severe-degree stress, respectively ($P < 0.001$). There was no significant association of any socio-demographic factors with the PSS score. Financial problems ($n = 51$; 47.7%) was the leading stressor, followed by road traffic ($n = 49$; 45.8%). Conclusions: Appropriate strategies are needed to address the high level of stress among auto-rickshaw drivers.

Keywords: Auto-rickshaw drivers, Cohen's Perceived Stress Scale, socio-demographic factors

Introduction

Sustainable transport is a key element in a sustainable lifestyle. In the urban road transport system in India, auto-rickshaws are one of the efficient modes of first as well as last mile connectivity. The drivers of the intermediate modes of public transport (IPT) such as auto-rickshaws or tuk-tuks are subject to irregular working hours, poor posture, poor dietary habits and harsh environmental factors of air pollution due to their open-air design. This is leading to high levels of stress amongst these drivers, which could potentially lead to increased rates of health issues like respiratory problems, musculoskeletal ailments and gastro-intestinal disturbances amongst other health disorders.[1,2] Work stress among professional drivers, aggravated by personality traits may further complicate the situation and adversely affect their health.[3]

Stress has been shown to cause functional and structural changes in the hippocampus of the brain, which has long been

Address for Corresponding: Dr Raveendra H. R. Reddy, Department of Community Medicine, Vydehi Institute of Medical Sciences and Research Centre, Whitefield, Bengaluru – 560 066, Karnataka, India. E-mail: hrrreddy@gmail.com

Access this article online

Quick Response Code:

Website:
www.jfmpc.com

DOI:
10.4103/jfmpc.jfmpc_2413_20

How to cite this article: Joshi A, Reddy RH, Agarwal A. The prevalence of stress, stressors and coping mechanisms and the socio-demographic factors associated among the auto-rickshaw drivers in Bengaluru city, India. J Family Med Prim Care 2021;10:2546-51.

associated with memory and cognition.[4,5] People under stress were demonstrated to have weaker immune systems, and as a result, suffered from more frequent illnesses.[6] Stress has also not only been found to have an effect on the cardiac sympathetic system resulting in increased heart rate, strength of contraction and increased preload, but also on the parasympathetic nervous system leading to peripheral vasodilatation, decreased cardiac contractility and a fall in blood pressure.[7,8] A high level of psychological distress is detrimental not only to the driver, but may also endanger the life of the passengers.

Studies on stress among auto-rickshaw drivers are scarce, especially in South India. Hence, this study was undertaken with the following objectives: (i) to assess the prevalence and levels of stress among auto-rickshaw drivers in Bengaluru city; (ii) to determine the socio-demographic factors associated with stress; and (iii) to understand the reasons for their stress and the activities undertaken by them as de-stress measures. The results of this study will help primary care physicians (PCP) to ascertain the burden of stress as a psychological health issue in IPT drivers. Identification, de-stigmatization, and effective management of stress by the PCP will reduce the prevalence of stress in IPT drivers, and in turn, lead to better road safety.

Subjects and Methods

A cross-sectional, analytical, community-based study was conducted in Bengaluru city, Karnataka, India. The study was carried out from June 1 to September 30, 2016. Bengaluru, which is the third most populous city in India, also known as the Garden city, or the Silicon city, has a total area of 709 square kilometers under the administrative area of Bruhat Bangaluru Mahanagara Palike (BBMP).

Auto-rickshaw drivers, aged 18 years and above, having a variable clientele, working exclusively as IPT drivers and willing to participate in the study were included in the study. Assuming the expected prevalence of stress among auto-rickshaw drivers as 36.5%[9] with an absolute precision of 8% and with a confidence interval of 95%, a sample size of 140 was considered for the study. Multi-stage random sampling method was used in the study. All the registered Unions of auto-rickshaw drivers in the BBMP area were enlisted. Fourteen Unions were randomly selected. From each of the selected Unions, 10 drivers were randomly selected.

Ethical clearance was obtained from the Institutional Ethics Committee. The participants were explained the purpose of the study and written informed consent was obtained. Suitable time and locations for the interview were selected based on the convenience of the study participants. Confidentiality of the data was maintained. Data was collected by the interviewer administered, semi-structured and pre-tested tool. The variables included in the data collection tool were socio-demographic factors, consumption of tobacco and alcohol, self-perceived stress and degree of stress based on self-perception, self-perceived

reasons for stress and the activities adopted as a means to cope with the stress, which was further assessed using Cohen's Perceived Stress Scale (PSS). The PSS consisted of 10 questions; scoring by 5-point Likert scale (0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Fairly often, and 4 = Always). The scores of the four positively stated items 4, 5, 7, and 8 were reversed (example, 0 = 4, 1 = 3, 2 = 2, 3 = 1 and 4 = 0) and then summed for each item to get a total. Individual scores on the PSS ranged from 0 to 40 with higher scores indicating higher perceived stress (linear relation).[10] Based on the total PSS score, degree of stress for each study participant was categorized as 'low', 'moderate' and 'high' with PSS scores of 0-13, 14-26 and 27-40, respectively.

Data was entered and analyzed using Epi Info™ version 7.1.5, Division of Health Informatics & Surveillance (DHIS), Center for Surveillance, Epidemiology & Laboratory Services (CSELS) and Centres for Disease Control and Prevention, USA.

The results are presented using frequencies and percentages. Means and standard deviations (SD) were calculated for continuous variables. Two sample t tests were used to compare the difference in means between two sub-groups, whereas one-way ANOVA (F-test) was used to compare the means of three or more groups. *P* values less than 0.05 were considered statistically significant.

Results

All the 140 (100%) auto-rickshaw drivers who participated in the study were males. While a majority 65 (46.4%) were in the age group 25-30 years, the mean age of the participants was 32.8 (± 8.3) years. Majority of participants had primary schooling (*n* = 84, 60%), belonged to Hindu religion (*n* = 109, 77.9%), were a part of a nuclear family (*n* = 80, 57.2%), and slept for more than 7 hours a day (*n* = 93, 66.4%) [Table 1].

While 78 (55.7%) of the study participants were consuming different forms of tobacco products, 45 (32.2%) were smoking tobacco products and 57 (40.7%) were consuming alcohol. Thirty-six (28.7%) reported to have been consuming both tobacco products and alcohol [Table 2].

As seen in Table 3, 107 (76.4%) auto-rickshaw drivers self-reported having mental stress. While 37 (26.4%) reported having moderate degree of stress, 39 (27.9%) reported having severe degree of stress. Based on the Cohen's Perceived Stress Score, 92 (65.7%) and 18 (12.9%) had moderate and high degree of stress, respectively. Thus, the prevalence of stress was 78.6% (*n* = 110) based on PSS assessment.

The mean (SD) of PSS was 20.51 (±5.25) among those who self-reported having stress compared to 12.36 (±4.98) those who did not report having any stress, which was statistically significant (*P* < 0.001). Similarly, the mean (SD) of PSS was 17.55 (±4.13), 20.65 (±5.23) and 23 (±5.12) among those who

Table 1: Socio-demographic characteristics of auto-rikshaw drivers in Bangalore city

Characteristics	Number	(%)
Total	140	(100.0)
Age-group (in years)		
18-25	27	(19.3)
26-35	65	(46.4)
36 and above	48	(34.3)
Educational status		
Illiterate	18	(12.9)
Primary schooling	84	(60.0)
High schooling	24	(17.1)
Above high schooling	14	(10.0)
Religion		
Hindu	109	(77.9)
Other*	31	(22.1)
Type of family		
Nuclear	80	(57.2)
Joint	44	(31.4)
Three generation	16	(11.4)
Marital status		
Married	108	(77.1)
Others†	32	(22.9)
Average duration of daily sleep		
<7 h	47	(33.6)
7 h and above	93	(66.4)

Column percentages; * "Other" include Muslim (25) and Christian (6); †"Others" include single (29), divorced (1), separated (1) and widowed (1)

Table 2: Prevalence of consumption of tobacco products and alcohol by the auto-rickshaw drivers in Bengaluru city

Variables	Number	(%)
Total	140	(100.0)
Tobacco consumption		
Nil	62	(44.3)
Smoking	45	(32.2)
Chewing	17	(12.1)
Both smoking and chewing	16	(11.4)
Alcohol consumption	57	(40.7)
Both tobacco and alcohol consumption	36	(25.7)
Neither tobacco nor alcohol	54	(38.6)

Column percentages

self-reported having mild, moderate and severe degree of stress, respectively [Table 4]. This difference in mean PSS was statistically significant ($P < 0.001$).

As seen in Table 5, there were no statistically significant differences in mean (SD) PSS among various socio-demographic factors studied, such as age group, educational status, religion, type of family, marital status and average duration of daily sleep of the study participants.

As seen in Figure 1, the common reasons for stress cited by the 107 study participants with self-reported stress were financial problems ($n = 51$; 47.7%), traffic on the roads ($n = 49$; 45.8%), family problems ($n = 19$; 17.8%) and passenger behavior ($n = 10$; 9.3%). Activities commonly adopted by the auto-rickshaw drivers

Table 3: Prevalence of self-reported stress and degree of stress based on PSS* among the auto-rickshaw drivers in Bengaluru city

Characteristics	Number	(%)
Total	140	(100.0)
Self-reported stress		
Present	107	(76.4)
Absent	33	(23.6)
Degree of self-reported stress		
Nil	33	(23.6)
Mild	31	(22.1)
Moderate	37	(26.4)
Severe	39	(27.9)
Degree of stress based on PSS*		
Low (Score 0-13)	30	(21.4)
Moderate (Score 14-26)	92	(65.7)
High (Score 27-40)	18	(12.9)

*Cohen's Perceived Stress Scale

Table 4: Comparison of mean (standard deviation) Cohen's Perceived Stress Scores between sub-groups of study participants, who reported different degrees of stress

Characteristic	n	PSS* Mean	(SD)†	t/F	P
Self-reported stress					
Absent	33	12.36	(±4.98)	7.888	<0.001
Present	107	20.51	(±5.25)		
Degree of self-reported stress					
No stress	33	12.36	(±4.98)	30.723	<0.001
Mild	31	17.55	(±4.13)		
Moderate	37	20.65	(±5.23)		
Severe	39	23.00	(±5.12)		

*Cohen's Perceived Stress Score; †Standard Deviation

to de-stress themselves included the consumption of tobacco products (smoking/chewing/both) 33 (30.8%), sleeping/taking rest 20 (18.7%), spending time with their friends 15 (14%), drinking coffee/tea frequently 11 (10.3%), meditation/prayer 11 (10.3%), consuming alcohol 10 (9.3%) and entertainment, such as music or watching movies 10 (9.3%) [Figure 2].

Discussion

In this study, the prevalence of self-reported stress among auto-rickshaw drivers in Bengaluru city is high, i.e., 76.4% ($n = 107$). This is further confirmed by Cohen's Stress Scale; wherein about 78.6% ($n = 110$) had a moderate to high score in the PSS. This was higher than that reported by Rathi A *et al.*,[9] which reported the prevalence of stress as 36.5% amongst IPT drivers and Reddy PS *et al.*,[11] which reported the prevalence of stress as 29.6% amongst auto-rickshaw drivers. However, this high prevalence of stress was comparable to that reported amongst public transport drivers in Belgium, i.e., 70.2%.[12]

In the present study, we compared the subjectively reported stress (no stress/mild/moderate/severe) to their respective
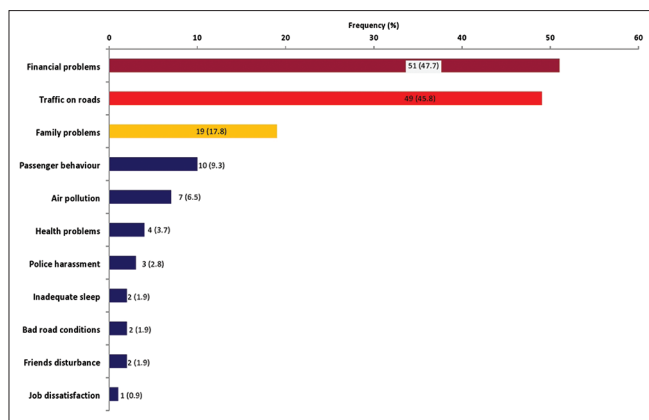
Figure 1: Reasons for the stress among the auto-rickshaw drivers as reported by the participants (*n* = 107) Footnote: Multiple responses, and therefore, numbers are not mutually exclusive
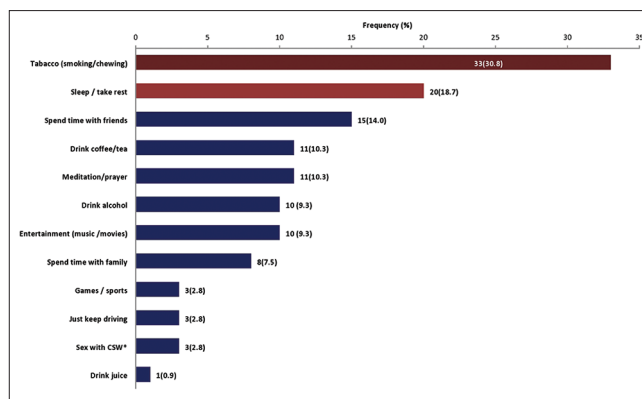

Figure 2: Activities adopted to reduce the stress by the auto-rikshaw drivers (*n* = 107) Footnote: Multiple responses, and therefore, numbers are not mutually exclusive; *Commercial sex worker

Table 5: Comparison of mean (standard deviation) Cohen's Perceived Stress Scores with different socio-demographic factors among the auto-rickshaw drivers in Bengaluru city

Characteristics	n	PSS*		t/F	P
		Mean	(SD)†		
Age-group in years					
18-30	63	18.78	(±5.89)	0.19	0.848
31 and above	77	18.57	(±6.64)		
Educational status					
Illiterate	18	18.89	(±6.12)	0.472	0.624
Primary schooling	84	19.00	(±6.14)		
High schooling and above	38	17.82	(±6.79)		
Religion					
Hindu	109	18.63	(±6.13)	-0.11	0.913
Others	31	18.77	(±6.94)		
Type of family					
Nuclear	80	18.39	(±6.35)	-0.60	0.550
Joint/Three generation	60	19.03	(±6.25)		
Marital status					
Married	108	18.23	(±6.44)	1.61	0.112
Others‡	32	20.13	(±5.64)		
Average duration of daily sleep					
<7 h	47	19.55	(±6.94)	1.19	0.236
7 h and above	93	18.22	(±5.93)		

*Cohen's Perceived Stress Score; †Standard Deviation; ‡'Others' include single (29), divorced (1), separated (1) and widowed (1)

PSS scores. Our observations were in congruence with other studies which used the PSS score to measure stress.[13] There was a statistically significant difference between the PSS mean (SD) scores of those who self-reported having stress and those who did not (*P*-value < 0.001). Similarly, there was a statistically significant linear relationship observed between the different levels of self-reported stress (no stress/mild/moderate/severe) and mean (SD) PSS (*P*-value <0.001). There was a relatively higher prevalence of self-reported severe stress (27.9%) when compared to respective PSS assessments (12.9%). The results of the present study emphasize the importance of appropriate strategies by PCP and public health administrators so that the stress is identified early and interventions in the form of behavioral therapy or medications be provided.

In the current study, there was no significant association between any of the socio-demographic factors studied, which included age group, educational status, religion, type of family, marital status and average duration of daily sleep of the study participants with the PSS mean (SD) scores (*P* > 0.05). Decreased average duration of sleep was, however, a significant risk factor for stress in other studies.[3,14] In a study by Useche SA *et al.*[15] involving 3,665 public transport drivers, it was found that job stress was positively associated with the number of hours spent driving and negatively associated with age and driving experience of the drivers.

High levels of job stress were consistently reported to be associated with poor health, cardiovascular morbidity and reduced productivity.[15] In a review of literature in 2005 involving 27 studies, traffic congestion was amongst the leading causes of psychosocial distress amongst other causes including time pressure, shift patterns and social isolation among bus drivers.[16] It is interesting to note that 15 years onwards, traffic congestion was still reported to be the leading cause of stress in public transport drivers which is also evidenced by our study.[1,17-19] Financial problem was cited as the major reason for the stress in the present study (47.7%; *n* = 51). This could be due to the unpredictable and highly variable volume of demand and slowly adapting mark-ups in tariffs by government authorities which fail to keep up with the inflation rates. The difference in the primal cause of stress between the undertaken study and those before mentioned can be attributed to the different fare rates between auto-rickshaw drivers and taxi drivers, the former charging a substantially lower fare.

In the present study, about 40.7% (*n* = 57) of the participants having stress reported adopting unhealthy measures like use of tobacco, alcohol, caffeine and engagement with commercial sex workers as a means to cope with the stress. These mechanisms not only fail to manage stress effectively but are also detrimental

to the physical and mental health of the driver and risks the life of his passengers.[20] These unhealthy mechanisms may lead to frequent headaches, metabolic disorders, depressed mood and increased irritability.[21] Healthier means to cope with stress, such as spending time with friends (14%; *n* = 15), meditation/prayer (10.3%; *n* = 10), entertainment (movies) (10.3%; *n* = 10), spending time with family (7.5%; *n* = 8) and games (2.8%; *n* = 3) were also reported by participants. Education regarding the importance of adopting healthy coping measures, like excercise, meditation, avoidance of addictive substances such as alcohol, tobacco or caffeine, will enable the driver to better handle the stress.[22] The encouragement of healthy sleeping habits such as adequate sleep duration, avoidance of caffeine or alcohol prior to sleep, avoidance of noisy and bright environments before sleep will have short- and long-term physical and mental health benefits.

Overall, 55.7% (*n* = 78) of the study participants in the current study were consuming tobacco products (smoking/chewing/both), 40.7% (*n* = 50) were consuming alcohol and 25.7% (*n* = 36) were consuming both tobacco and alcohol. This was substantially higher than the proportion of tobacco consumers amongst yellow taxi drivers in Maharashtra, India and New York City, USA, which reported a 30% and 27.8% tobacco consumption rate, respectively.[3,23] However, our findings of tobacco-use prevalence were still lower than those reported by Shetty *et al.*[24] and Kaul S *et al.*[25] where the reported tobacco use prevalence was 70.88% and 83.3%, respectively, amongst auto-drivers. There was a higher reported proportion of tobacco use among auto-rickshaw drivers as compared to non-auto-rickshaw drivers (46.65%).[25] The prevalence of alcohol consumption amongst auto-rickshaw drivers in the study was comparable to the national average prevalence of alcohol consumption amongst non-auto-rickshaw drivers.[26,27,28]

The results of this study reveal that a majority of IPT drivers are affected by psychological job stress. The stressors affecting this population remain largely unchanged since the past decade. Regular health check-ups by PCP must include an evaluation of psychological health, especially stress. By de-stigmatizing mental health issues in IPTs and encouraging healthier coping mechanisms to stress and discouraging the unhealthier coping mechanisms, the burden of psychological stress will result in decline in its prevalence and positively impact public road safety.

Strengths and limitations of the study: As the self-reported rates were considered in the study, there is a possibility of under-reporting of unhealthy behaviors and over-reporting of stress. However, as data collection was done by the same interviewers for all the study participants and that data collection was done at a time and place convenient for the participants, we believe this possible limitation is taken care of. Furthermore, the self-reported stress was validated and assessed objectively by using the PSS.

Conclusions

Stress at workplace is a growing and dangerous trend which affects public transport drivers, and ultimately endangers their own and their passengers' lives. The prevalence of stress is high among the auto-rickshaw drivers in Bengaluru city, India. Mental health promotion and education regarding healthy coping mechanisms to stress is of paramount importance. In this study, we have graded the severity of stress and observed that the most common stressors were financial inadequacy, poor road conditions and high traffic density. Promotion of regular sports activity or exercise, along with adequate amount of sleep, practicing yoga, prayer, meditation or progressive muscle relaxation may further help reduce the strain and stress amongst the drivers. Healthier coping mechanisms to stress will not only ensure the mental and physical safety of the transport driver but will also improve productivity and road safety.

Acknowledgements

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Key Messages

The prevalence of stress among auto-rickshaw drivers is high. There was concurrence between self-reporting stress and PSS. Financial problems and road traffic are the main stressors. Many participants adopting unhealthy measures like tobacco and alcohol consumption as a means to de-stress is a concern.

Financial support and sponsorship

Conflicts of interest

There are no conflicts of interest.

References

1. Whitelegg J. Health of Professional Drivers, A Report for Transport and General Union. Ecologica Limited; 1995.
2. Stephen P, Mahalakshmy T, Manju R, Laksham KB, Subramani S, Panda K, *et al.* High prevalence of chronic respiratory symptoms among autorickshaw drivers of

urban Puducherry, South India. Indian J Occup Environ Med 2018;22:40-4.

3. Bawa MS, Srivatsav M. Study the epidemiological profile of taxi drivers in the background of occupational environment, stress and personality characteristics. Indian J Occup Environ Med 2013;17:108–13.

4. Ghodrat M, Sahraei H, Razjouyan J, Meftahi G. Effects of a saffron alcoholic extract on visual short-term memory in humans: A psychophysical study. Neurophysiology 2014;46:247–53.

5. McEwen BS, Sapolsky RM; Stress and cognitive function. Curr Opin Neurobiol 1995;5:205-16.

6. Khansari DN, Murgo AJ, Faith RE. Effects of stress on the immune system. Immunol Today 1990;11:170-5.

7. Herd JA; Cardiovascular response to stress. Physiol Rev 1991;71:305-30.

8. Pagani M, Mazzuero G, Ferrari A, Liberati D, Cerutti S, Vaitl D, *et al.* Sympathovagal interaction during mental stress. A study using spectral analysis of heart rate variability in healthy control subjects and patients with a prior myocardial infarction. Circulation 1991;83(4 Suppl):II43-51.

9. Rathi A, Kumar V, Singh A, Lal P. A cross-sectional study of prevalence of depression, anxiety and stress among professional cab drivers in New Delhi. Indian J Occup Environ Med 2019;23:48–53.

10. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav 1983;24:386-96.

11. Reddy PS, Sujatha N, Kurre B. A cross sectional study on assessment of stress among auto- rickshaw drivers in urban areas of Raichur. India J Public Health Research and Development 2020:11:74-8.

12. De Valck E, Smeekens L, Vantrappen L. Periodic psychological examination of train drivers' fitness in Belgium: Deficits observed and efficacy of the screening procedure. J Occup Environ Med 2015;57:445-52.

13. Seedhom AE, Kamel EG, Mohammed ES, Raouf NR. Predictors of perceived stress among medical and nonmedical college students, Minia, Egypt. Int J Prev Med 2019;10:107.

14. Worley SL. The extraordinary importance of sleep: The detrimental effects of inadequate sleep on health and public safety drive an explosion of sleep research. P T 2018;43:758-63.

15. Useche SA, Cendales B, Montoro L, Esteban C. Work stress and health problems of professional drivers: A hazardous formula for their safety outcomes. PeerJ 2018;6:e6249. doi: 10.7717/peerj.6249.

16. Tse JLM, Flin R, Mearns K. Bus driver well-being review: 50 years of research. *Transportation Research Part F: Traffic Psychology and Behaviour* 2006;9:89–114.

17. Duffy CA, McGoldrick AE. Stress and bus drivers in UK transport industry. Int J Occup Hyg 1990;4:17-27.

18. Hennessy A. Influence of traffic congestion, daily hassels and traits stress susceptibility on driver's stress. J Appl Biobehav Res 2000;5:162-79.

19. Santos JA, Lu JL. Occupational safety conditions of bus drivers in Metro Manila, the Philippines. Int J Occup Saf Ergon 2016;22:508-13.

20. Rodriquez EJ, Gregorich SE, Livaudais-Toman J, Pérez-Stable EJ. Coping with chronic stress by unhealthy behaviors: A re-evaluation among older adults by race/ethnicity. J Aging Health 2017;29:805-25.

21. Orzechowska A, Zajączkowska M, Talarowska M, Gałecki P. Depression and ways of coping with stress: A preliminary study. Med Sci Monit 2013;19:1050-6.

22. Stress: Coping with Life's Stressors. November 24, 2020. Available from https://my.clevelandclinic.org/health/articles/6392-stress-coping-with-lifes-stressors.

23. Gany F, Bari S, Gill P, Ramirez J, Ayash C, Loeb R, *et al.* Step on it! Workplace cardiovascular risk assessment of New York City yellow taxi drivers. J Immigr Minor Health 2016;18:118-34.

24. Shetty P, Khargekar NC, Debnath A, Khargekar NR, Srivastava BK, Hakeen NEF Determinants of tobacco use and prevalence of oral precancerous lesions in cab drivers in Bengaluru city, India. Int J Prev Med 2017;8:100.

25. Kaul S, Gupta AK, Sarkar T, Ahsan SK, Singh NP. Substance abuse and depression among auto-rickshaw drivers: A study from the national capital region of Delhi, India. Indian J Med Spec 2019;10:143-8.

26. Teli SA, Joshi Y. Prevalence of alcohol consumption in an urban population of Dehradun. Asian J Pharm Res 2019;9:87–9.

27. Eashwar VMA, Gopalakrishnan S, Umadevi R, Geetha AJ. Pattern of alcohol consumption and its associated morbidity among alcohol consumers in an urban area of Tamil Nadu. Family Med Prim Care 2019;8:2029-35.

28. Eashwar VMA, Gopalakrishnan S, Umadevi R, Geetha A. Epidemiology of alcohol consumption in an urban area of Kancheepuram district, Tamil Nadu. J Family Med Prim Care 2019;8:1098-105.