

A Cross Sectional Study on Assessment of Stress among Auto-rickshaw Drivers in Urban Areas of Raichur

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Abstract

Introduction: Auto rickshaw is one of the main mode of public transport in the urban and semi urban regions. Auto rickshaw drivers may suffer from some kind of stress due to following reasons like finance, driving, health related issues, family issues, marital issues etc., all this may pose risk to the driver and fellow passengers. **Objectives:** The present study was conducted to determine the stress and its association with various factors. **Methodology:** A cross-sectional study was conducted in the urban areas of Raichur. Different auto-rickshaw stands were randomly selected from different parts of the city. 206 auto-rickshaw drivers were selected by simple random sampling technique. The present study was carried out from April to July 2019. Stress was assessed using perceived stress scale technique. Data was analysed using Epi info V7.0 software. **Results:** Out of 206 auto-rickshaw drivers, the prevalence of stress among auto-rickshaw drivers was 29.61%, in which majority (17.96%) had moderate stress, followed by 11.65% had mild stress. Stress has highly significant association between age group and years of driving. **Conclusion:** This study shows that the majority of risk factors are modifiable and preventable. Hence creating awareness is essential.

Keywords: Auto-rickshaw drivers, Stress prevalence, Moderate stress.

Introduction

Auto-rickshaws are an important part of urban mobility and a step to improving sustainable transportation, as well as quality of life in Indian cities. Integrating auto-rickshaw services as a feeder mode complements public transportation systems, ensuring connectivity and easy access throughout the city. Auto-rickshaws also bridge the gap between public transport and door-to-door services, providing an alternative to private vehicles.⁽¹⁾ Stress is a feeling of strain and pressure or any unpleasant emotion and feeling. About

43% of adults suffer adverse effects from stress. Stress plays an important role in almost all diseases. ⁽²⁾ An “occupational disease” is any disease contracted primarily as a result of an exposure to risk factors arising from work activity. “Work-related diseases” have multiple causes, where factors in the work environment may play a role, together with other risk factors, in the development of such diseases.⁽³⁾ Auto-rickshaw driver is exposed to many kinds of risks owing to his profession, such as stressful occupational conditions, environmental pollution and substance abuse such as smoking, tobacco and alcohol use.⁽⁴⁾ Increased workloads, overtime, hostile work environments, and shift work are just a few of the many causes of stressful working conditions.⁽⁵⁾ Auto rickshaw drivers may suffer from some kind of stress due to following reasons like finance, driving, health related issues, family issues, marital issues etc., all this may pose risk to the driver and fellow passengers. Many studies are available in India, regarding Auto-rickshaw drivers. Therefore this study was carried out.

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Objectives

The present study was conducted to determine the stress and its association with various factors.

Methodology

A descriptive cross-sectional study was conducted in the urban areas of Raichur. Different auto-rickshaw stands were selected from different parts of the city, which included the heart of the city, where there is high traffic flow as well as places at the outskirts of the city. Study Subjects from different auto-rickshaw stands were selected by simple random sampling technique. Sample Size was calculated based on a previous study conducted by Sinha A and Shashikala M (2015), showing prevalence of stress among auto-rickshaw drivers was 31.8 %. Using sample size formula

$$n = \frac{Z\alpha^2 * (P) * (1-P)}{L^2}$$

considering precision 0.2 and estimated sample size was 206. The present study was carried out from April to July

2019. Stress was assessed using perceived stress scale technique. After taking verbal consent, auto-rickshaw drivers were interviewed using a semi-structured questionnaire. It was one-to-one type of interaction. The results were presented in terms of frequency and percentages. Chi square test was applied. Data was entered in Ms Excel 2010 and analysed using Epi info V7.0 software.

Results

The study results shows, majority 114(55.34%) of auto drivers belonged to 21-30 years of age group. All of them were males. Majority 117(56.80%) of them were Hindus. Majority 137(66.50%) of them belonged to upper lower class (class IV), according to Modified Kuppuswamy Classification 2019. Majority 141(68.45%) of them were married. Majority 114(55.34%) of drivers were smokers. Majority 109(52.91%) of them were alcoholic. Majority 106(51.46%) of them were tobacco chewers. Majority 146(70.87%) of them were driving for more than or equal to 12 hours per day. Majority 122(59.22%) of them were in this profession for less than 10 years.

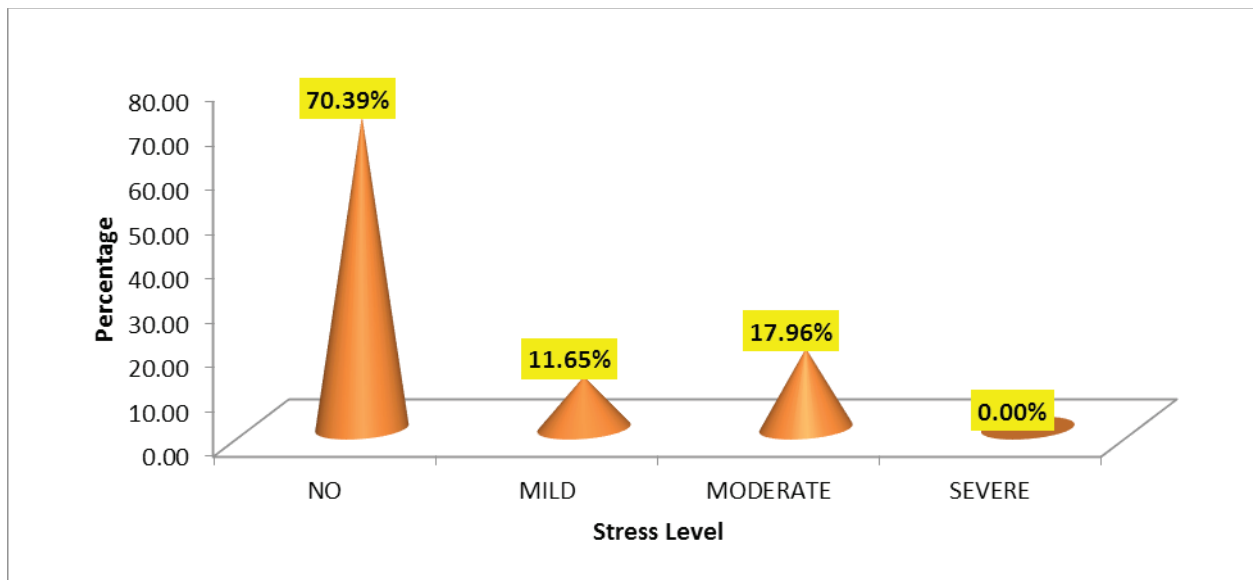


Figure – 1: Magnitude of stress among auto-rickshaw drivers.

Figure - 1 shows that out of 206 auto-rickshaw drivers, majority 145(70.39%) have no stress, 24(11.65%) have mild stress and 37(17.96%) have moderate stress. The present study shows that the prevalence of stress among auto-rickshaw drivers is 61 (29.61%).

Table – 1: Distribution of stress due to various components.

STRESS COMPONENT	NO STRESS		MILD		MODERATE		SEVERE		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%
Due to Finance	147	71.36	11	5.34	46	22.33	2	0.97	206	100
Due to Driving	144	69.90	13	6.31	49	23.79	0	0.00	206	100
Due to Health	181	87.86	8	3.88	17	8.25	0	0.00	206	100
Due to Customers	197	95.63	0	0.00	9	4.37	0	0.00	206	100
Due to Marital Status	201	97.57	0	0.00	5	2.43	0	0.00	206	100
Due to Family	197	95.63	1	0.49	8	3.88	0	0.00	206	100
Due to Keeping up timing	203	98.54	0	0.00	3	1.46	0	0.00	206	100

Table – 1 shows that the stress due to finance include moderate stress 46(22.33%) followed by mild 11(5.34%) and severe 2(0.97%) stress. Stress due to driving include moderate stress 49(23.79%) followed by mild 13(6.31%) and no severe stress. Stress due to health include moderate stress 17(8.25%) followed by mild 8(3.88%) and no severe stress. Stress due to customers include moderate stress 9(4.37%), no mild and severe stress. Stress due to marital status include moderate stress 5(2.43%), no mild and severe stress. Stress due to family include moderate stress 8(3.88%) followed by mild 1(0.49%) and no severe stress. Stress due to keeping up timings include moderate stress 3(1.46%), no mild and severe stress.

Table - 2: Association between stress and various factors.

FACTORS		STRESS				TOTAL		χ^2	P VALUE
		STRESS (n = 61)		NO STRESS (n =145)		(n =206)			
		No.	%	No.	%	No.	%		
AGE	21 – 30	21	34.43	93	64.14	114	55.34	15.893	0.000 <0.001**
	31 – 40	31	50.82	37	25.52	68	33.01		
	> 40	9	14.75	15	10.34	24	11.65		
SES	CLASS III	19	31.15	50	34.48	69	33.49	0.214	0.643 >0.05
	CLASS IV	42	68.85	95	65.52%	137	66.50		
YEARS OF DRIVING	<= 10 YRS	15	24.59	107	73.79	122	59.22	43.044	0.000 <0.001**
	> 10 YRS	46	75.41	38	26.21	84	40.78		
HOURS OF DRIVING	<12hrs	9	14.75	51	35.17	60	29.13	8.672	0.003 <0.05*
	>=12 hrs	52	85.25	94	64.83	146	70.87		

* Significant ** Highly significant p>0.05 Not significant

Table – 2 shows that the majority (50.82%) stress was found to be more among 31 - 40 years age group as compared to 21 to 30 years(34.43%) age group and this difference between the age group was found to be highly statistical significant($p < 0.001$). Stress was found to be more among class IV (68.85%) socio-economic status according to Modified Kuppaswamy's Socioeconomic classification 2019 as compared to class III(31.15%) and this difference was not statistically significant i.e., $p > 0.05$. Stress was found to be more among those who were in this profession from past 10 years or more(75.41%) as compared to those who were in this profession from past 10 years or less(24.59%) and this difference was found to be highly statistical significant($p < 0.001$). Stress was found to be more among those who were driving 12 hrs per day or more (85.25%) as compared to those who were driving less than 12 hrs per day (14.75%) and this difference was found to be statistically significant ($p < 0.05$).

Discussion

Prevalence of Stress

In our study, the prevalence of stress among auto drivers was found to be 29.61%. In the study conducted by Sinha A et al⁽⁵⁾, the prevalence of stress was 31.2%, while in the study conducted by Chaudhary et al⁽⁶⁾, the prevalence of stress was 27.6%.

In the present study, majority (70.39%) of auto drivers had no stress, followed by 17.96% had moderate stress and 11.65% had mild stress. While in the study, conducted by Sinha A et al⁽⁵⁾, 29.2% of auto drivers had mild stress, followed by moderate stress. In the study conducted by Chaudhary et al⁽⁶⁾, majority(72.64%) of auto drivers had no or mild stress, followed by moderate stress.

Socio-demographic profile of Auto-rickshaw drivers

In the present study, the majority (55.34%) of auto drivers belonged to 21-30 years of age. Similar results were seen in the studies conducted by Kaul S et al⁽⁴⁾ and Sinha A et al.⁽⁵⁾ Whereas, in other studies majority of auto drivers belong to 25- 40 years.^(3,7,8,9) In the present study, majority (56.8%) of auto drivers were Hindus followed by Muslims(33.01%). Similar results were

noted from several other studies.^(3,5,7,8,9) In the present study, majority (66.50%) of auto drivers belong to Upper Lower Class (Class IV) which is consistent in the studies conducted by Sinha A et al⁽⁵⁾ and Chaudhary et al.⁽⁶⁾ Whereas, in the studies conducted by Melwani V et al⁽³⁾, Kaul S et al⁽⁴⁾ and Mahadik VJ et al⁽⁷⁾ majority of the auto drivers belonged to Class III. In our study, majority (68.45%) of the study participants were married, similar results were noted in several other studies.^(3,4,5,6,7,8,9)

In the present study, majority (55.34%) of the auto drivers were smokers. Whereas, in the studies conducted by Melvani V et al⁽³⁾ and Chaudhary et al⁽⁶⁾ the majority of them were non-smokers. In our study, majority (52.91%) of the auto drivers were alcoholics, while in the study conducted by Chaudhary et al⁽⁶⁾ only 34.12% were alcoholics. In the present study, majority (51.46%) of the study participants had the habit of chewing tobacco, while in the study conducted by Chaudhary et al⁽⁶⁾ only 40.20% of them chewed tobacco.

In our study, majority (70.87%) of auto drivers worked for more than 12 hours per day. Similar results were noted in the studies conducted by Sinha A et al⁽⁵⁾ and Subendiran S.⁽⁸⁾ Whereas, the studies conducted by Kaul S et al⁽⁴⁾ and Mahadik VJ et al⁽⁷⁾ showed that majority of the auto drivers worked for less than 10 hours per day. In the present study, majority (59.22%) of the auto drivers were in this profession for less than 10 years. Similar results were seen in the studies conducted by Sinha A et al⁽⁵⁾ and Rajesh Rajan.⁽⁹⁾ While in the studies conducted by Kaul S et al⁽⁴⁾ and Mahadik VJ et al⁽⁶⁾ majority of the auto drivers were in their profession for more than 10 years.

Factors associated with stress

In the present study, highly statistical significant association of stress was noted with age and years of driving. Statistical significant association of stress was noted with number of hours of driving per day with $p < 0.05$ and there was no association of stress with socio-economic status. Similarly in the study conducted by Sinha A et al⁽⁵⁾, highly statistical significant association of stress was seen with age and years of driving.

Conclusion

In the present study the prevalence of stress among

auto-rickshaw drivers was found to be 29.61%. This study also showed that the majority of risk factors are modifiable and preventable. Hence measures like periodic health examinations, health education regarding stress management and awareness regarding health insurance and social security schemes should be provided.

Ethical Clearance : The ethical clearance was obtained from Institutional research ethical committee, Navodaya Medical College, Raichur.

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Conflict of Interest : Nil

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