



# ASSESSMENT OF STRESS AMONG AUTO-RICKSHAW DRIVERS IN BANGALORE CITY - A CROSS SECTIONAL STUDY

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**ABSTRACT:** Auto-rickshaw is the one of the main mode of public transport in urban and semi-urban areas. Some of the auto-rickshaw drivers may suffer from some kind of stress due to following reasons, like stress due to finance, due to driving, due to health status etc. This may pose risk to Auto-rickshaw drivers and Auto-rickshaw passengers. **OBJECTIVES:** Hence this study was conducted to assess the stress and to determine the association between stress and Duration of job & Socio-demographic characteristics among Auto-rickshaw drivers. **MATERIALS AND METHOD:** Study was conducted among randomly selected Auto rickshaw drivers -480 from the randomly selected Auto-rickshaw unions in Bangalore city from October 20<sup>th</sup> to November 19<sup>th</sup>. Stress was assessed as perceived by Study Subjects. **RESULTS:** Out of 480 Auto-rickshaw drivers 29.8% had mild stress and 2 % had moderate stress, 90.6% belongs to age group 21 to 40 years and they had 27.8% stress as compared to 41 to 60 years(9.4%) had 32.2% stress. Socio-economic class depicts that 69.8% were upper lower (class IV) had 29.8% stress as compared to lower middle class III (30.2%) had 34.5% stress. 84.2% had been in this profession since 10 years or less and stress was found to be 24.3% as compared to those driving more than 10 years-15.8% who had stress 75.7%

**Index terms:** Auto-rickshaw drivers, mild stress, moderate stress, Socio-demographic characteristics

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## I. INTRODUCTION

In India auto-rickshaws are main mode of public transport in urban and semi-urban areas. Occupational stress is a physical or psychological disorder associated with an occupational environment and manifested in symptoms such as extreme anxiety, or tension, or cramps, headaches, or digestion problems. Occupational stress is a major hazard for many workers. Increased workloads, overtime, hostile work environments, and shift work are just a few of the many causes of stressful working conditions. Not many studies are available in India, regarding Auto-rickshaw Drivers. Therefore, this study was undertaken to assess the stress among Auto-rickshaw drivers by assessing stress as perceived by study subject.[3]

## II. OBJECTIVES

- I. To describe the Socio-demographic characteristics of Auto-rickshaw drivers.
- II. To assess Stress among Auto-rickshaw drivers .
- III. To determine the association between Stress and Socio- demographic characteristics and duration of job

## III. METHODOLOGY

**Study setting:** This study was conducted among randomly selected Auto rickshaw drivers from the Auto-rickshaw unions selected randomly in Bangalore city



*Study subject:* Sample Size was calculated based on a study conducted by Chaudhary et al[1] showing prevalence of 'moderate' or 'severe' self reported stress of 27.36%. Using formula  $n = 4pq / L^2$  Considering allowable error of 15% Estimated Sample size is 474

*Sampling method:* Auto-rickshaw drivers union and Study Subjects from that union were selected by simple random sampling.

*Study Period:* October 20<sup>th</sup> to November 19<sup>th</sup> 2014  
*Study tool:* Informed consent was obtained and subjects were interviewed using a semi-structured questionnaire. Stress is assessed as perceived by the study subjects.

*Statistical Analysis:* The result was presented in terms of frequency and percentages. Chi square test will be applied. Data was entered in Microsoft Excel and analyzed using SPSS-16.0. Institutional Ethical Clearance was obtained.

#### IV. RESULTS

The total population of Auto-rickshaw drivers in the randomly selected Auto-rickshaw unions in Bangalore city was 10000 and out of that 480 subjects were selected randomly from the same unions. Out of 480 Auto-rickshaw drivers 140(29.2%) had mild stress and 10(2%) had moderate stress. (Fig I) Out of 480 Auto-rickshaw drivers majority 435(90.6%) belonged to age group 21- 40 years. All of them were males. Majority 309(64.4%) of them were Hindus. Majority 335(69.8%) belonged to upper lower class (class IV). Majority 424(88.3%) of them were married. Majority 412(85.8%) of them were driving for more than 10 hours per day. Majority 404(84.2%) of them had been in this profession for 10 years or less.

TABLE I Socio-demographic characteristics among Auto-rickshaw driver

Socio-demographic Characteristics		Total
Age(years)	21-40	435(90.6)
	41-60	45(9.4)
Religion	Hindu	309(64.4)
	Muslim	171(35.6)
Socio-economic class	Class III	145(30.2)
	Class IV	335(69.8)
Marital	Married	424(88.3)
	Single*	56(11.7)
Duration of driving per day(hours)	≤10	68(14.2)
	>10	412(85.8)
Year of driving	≤10	404(84.2)
	>10	76(15.8)

Figures within parenthesis indicate percentages

\*Single- un married/divorce/separated

Table II Showing the association between stress and socio-demographic characteristics. Stress was found to be more among 41 to 60 years age group(34.5%) as compared to 21 to 40 years(27.8%) and this difference between the age group was found to be statistically significant( $p < 0.001$ ). Stress was found to be more among class III Socio-economic states according to Modified Kuppaswamy's Socioeconomic classification 2012 as compared to class IV(29.2%) and this difference was statistically not significant( $p = 0.301$ ). Stress was found to be more among those who were in this profession from past 10 years or more(68.4%) as compared to those who were in this profession from past 10 years or less(24.3%) and this difference was found to be statistically significant( $p < 0.001$ )

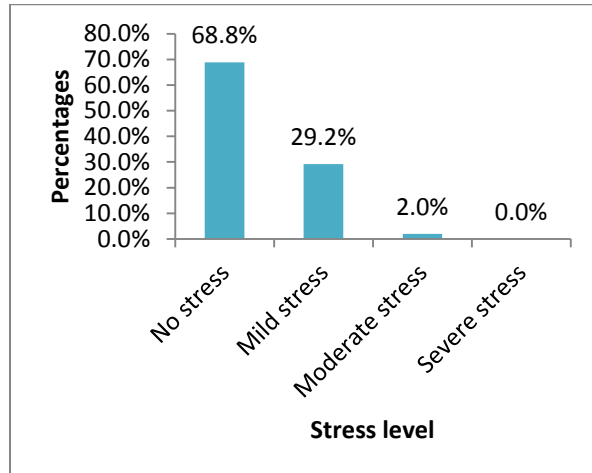


Fig I Magnitude of stress among Auto-rickshaw drivers

TABLE II Association between Stress and Socio-demographic characteristics, Duration of job

Socio-demographic characteristics		Stress	No stress	Total	p-value
Age(years)	21-40	121(27.8)	314(72.2)	435(100)	<0.001
	41-60	29(34.5)	16(35.5)	45(100)	
Socio-economic class	Class III	50(34.5)	95(65.5)	145(100)	0.301
	Class IV	100(29.8)	235(70.2)	242(100)	
Years of driving	≤10	98(24.3)	306(75.7)	404(100)	<0.001
	>10	52(68.4)	24(31.6)	76(100)	

Figures within parenthesis indicate percentages

Table III Magnitude of Stress due to various components

Stress component	No stress(0)	Mild(I)	Moderate (II)	Severe (III)	Total
Due to finance	380(79.2)	60(12.5)	39(8.1)	3(0.2)	480(100)
Due driving	380(79.2)	60(12.5)	39(8.1)	1(0.2)	480(100)
Due to health	419(87.3)	25(5.2)	35(7.3)	1(0.2)	480(100)
Due to customers	407(84.2)	53(11.6)	20(4.2)	-	480(100)
Due to marital status	474(98.8)	6(1.2)	-	-	474(100)
Due to family	471(98.1)	8(1.7)	1(0.2)	-	471(100)
Due to keeping up timing	434(90.4)	39(8.1)	7(1.5)	-	434(100)

Figures within parenthesis indicate percentages

Table III Depicts Stress due to various components.

Stress due to finance include mild stress 60(12.5%) following moderate 39(8.1%) and severe 3(0.2%) , Stress due to driving include mild stress 60(12.5%) following moderate 39(8.1%) and severe 3(0.2%), Stress due to health include mild stress 25(5.2%) following moderate 35(.3%) and severe 3(0.2%), Stress due to customers include mild stress 53(11.0%) following moderate 20(4.2%) and no severe stress , Stress due to marital status include mild stress 6(1.2%) following no moderate and no severe stress, Stress due to family include mild stress 8(1.7%) following moderate 1(0.2%) and no severe stress and Stress due to keeping up timings include mild stress 39(8.1%) following moderate 7(1.5%) and no severe stress. But overall there is no severe stress

### V.DISCUSSION

In the study conducted by Chaudhari et al the magnitude of stress was 27.6% [1], where the study conducted by Bawa et al magnitude was only 6%[2], when compared with the present Study,31.2% is lower. This could be due to increased fuel cost and different mode of transport available like taxi, bus and public transport. Magnitude of stress was higher in age group 41 to 60 years 29(34.5%) when



compared to 21 to 40 years age group 121(27.8%). This could be due to increasing age which may decrease the work efficacy, monotony in driving etc. Magnitude of stress among Auto-rickshaw drivers who belonged to class III Socioeconomic class was 50 (34.5%) compared to class IV 100(29.8%).

#### **VI.CONCLUSION & SUGGESTIONS:**

In the present study it was found that magnitude of Stress among Auto-rickshaw drivers was 31.2% which was found to be higher. In this regard there is need for creating awareness among Auto-rickshaw drivers and further research in this field. Hence there is need for creating awareness regarding Health promotion, Balanced diet, Stress management and Counseling and regular Medical checkup. Health Insurance for all the Auto-rickshaw drivers need to be looked into and implemented by Regional Transport Office.

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