

## Original Research Article

# Study to assess the socio-demographic profile, health status and working conditions of auto-rickshaw drivers in Bhopal

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## ABSTRACT

**Background:** In India auto-rickshaws are main mode of public transport in urban and areas. Health has always been closely linked with occupation. Auto drivers are exposed to harmful environment like pollutant gases, continuous noise and whole-body vibration as well harmful lifestyle like irregularity of meals, bad posture while driving and stressful occupational conditions due to their working conditions. This study was undertaken to assess the socio-demographic profile, Health status and working conditions of auto-rickshaw drivers.

**Methods:** This cross sectional study was conducted at 15 auto-rickshaw stands of Bhopal city. 20 auto-rickshaw drivers were selected from each stand. A pre designed questionnaire was used to obtain the details of auto-rickshaw drivers. The data was entered in Ms Excel and analysed using Epi info 7.

**Results:** The mean age of study participants was  $39.17 \pm 10.38$  years. 25% of study participants were educated upto 10<sup>th</sup> std while 22% participants were illiterate. 40.33% of study participants were belonging to lower middle SES. Average no. of customers per day 7, average working hours 12, average income per day on busy day Rs. 420, average income per day on dull day Rs.101. 6.67% of study participants were hypertensive, 3.67% have diabetes while 1% have both HTN and diabetes. 12% participants complained of Lacrimation while driving in day.

**Conclusions:** Our study throws some light on working condition and health status of auto-rickshaw drivers. Addiction was common among study participants. There is need for creating awareness regarding health promotion and regular medical check-up.

**Keywords:** Occupational health, Auto-rickshaw drivers, Ergonomics

## INTRODUCTION

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. (WHO, occupational and work-related diseases). In India auto-rickshaws are main

mode of public transport in urban areas.<sup>1</sup> Health has always been closely linked with occupation.<sup>2</sup> The environment in which drivers spend the majority of their time is polluted, noisy and dangerous.<sup>3</sup> Auto drivers are exposed to harmful environment like pollutant gases, continuous noise and whole-body vibration as well harmful lifestyle like irregularity of meals, bad posture while driving and stressful occupational conditions due to their working conditions.<sup>1</sup> These work factors may be

associated with various musculo-skeletal, cardiovascular, respiratory, hearing and other problems which can have driving safety implications.<sup>1</sup> Studies have shown that when a vehicle is in motion the body is subjected to different forces: accelerations and decelerations lateral swaying from side to side, and whole-body up and down vibrations.<sup>4</sup> Not many studies have been conducted in India, regarding auto-rickshaw drivers health status. Therefore, this study was undertaken to assess the socio-demographic profile, health status and working conditions of auto-rickshaw drivers.

### Objectives

1. To study the socio-demographic characteristics of auto-rickshaw drivers.
2. To assess the working conditions of these drivers.
3. To assess the health status of selected auto-rickshaw drivers.

### METHODS

The present study was conducted in Bhopal city. 15 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. These areas were Kohe Fiza, Lalghatti Bus stop, MP Nagar, Habibganj Railway station, Kolar, Karond, Bairagrh, 11 Bus no. stop, Arera Colony, BHEL gate, Bittan Market, New Market, Rang Mahal, ISBT and Bhopal Railway Station. These selected stands 20 auto rickshaw drivers were interviewed and their information was recorded in a semi structured questionnaire. If it was not possible to get 20 drivers from any stand, driver from the nearest stand that is within 1 km of that area was interviewed. This study was done in One month period which was from 1 March 2017 to 30 March 2017. Data was entered in Ms Excel 2007 and analysed using Epi info. Ethical clearance for the study was obtained from Institute's Ethical Committee.

### RESULTS

Out of 300 auto rickshaws drivers, the mean age was  $39.17 \pm 10.3$  years. The mean age of starting driver was  $21.5 \pm 5.63$  years. The socio demographic profile is shown in Table 1.

54% of auto rickshaw drivers lived in joint family, while 46% lived in nuclear family. 38.33% lived in Kaccha house, 58.33% lived in Pucca house and 8.33% lived in semi pucca house.

Mean total distance commuted daily was  $53.5 \pm 17.2$  kms. Out of which mean distance from house and place of work was  $2.90 \pm 3.2$ . The average income per day on a busy day was Rs.  $420 \pm 132.96$ , while on a dull day was Rs.  $101 \pm 132.96$ . The average number of customers they get ranged from  $7 \pm 2$  customers per day. While 98 percent only had driving as their source of income, 2% had

alternate sources of income like business, cook, barbery, repairing etc. The means hours of working varied from  $11.37 \pm 2.25$  hours per day.

**Table 1: Socio-demographic profile of the auto rickshaw drivers.**

S.no	Characteristics	Frequency	%
<b>1.</b>	<b>Age (in years)</b>		
	<21	10	3.33
	22-31	70	23.33
	32-41	90	30.00
	42-51	26	8.67
	52-61	87	29.00
	>62	8	2.67
<b>2</b>	<b>Religion</b>		
	Hindu	152	50.67
	Muslim	148	49.33
<b>3</b>	<b>Education</b>		
	Illiterate	66	22.00
	Primary class	70	23.33
	Upto 8 <sup>th</sup>	70	23.33
	Upto 10 <sup>th</sup>	75	25.00
	Upto 12 <sup>th</sup>	17	5.67
	Graduate	2	0.67
<b>4</b>	<b>Socio economic class</b>		
	Lower class	85	28.33
	Lower middle class	121	40.33
	Middle class	92	30.67
	Upper middle class	2	0.67
<b>5</b>	<b>Marital status</b>		
	Married	272	90.67
	Unmarried	28	9.33

**Table 2: Working patterns of the autorickshaw drivers.**

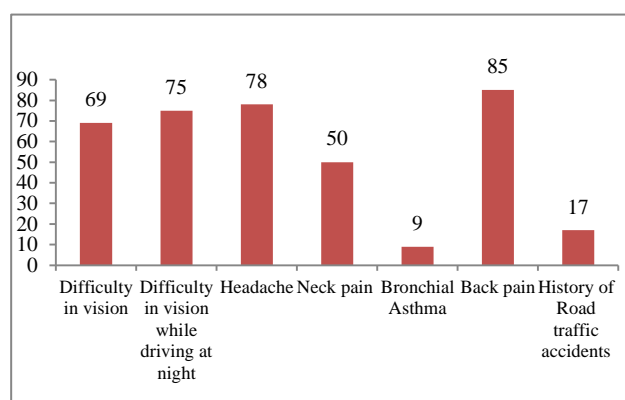
S.no	Characteristics	Frequency	%
<b>1.</b>	<b>Vehicle ownership</b>		
	Owned	148	49.33
	Rented	152	50.67
<b>2.</b>	<b>Shift of work</b>		
	Day	204	68.00
	Day night	94	31.33
	Night	2	0.67
<b>3.</b>	<b>Ever got rob on work.</b>		
	No	292	97.33
	Yes	8	2.67
<b>4.</b>	<b>Time of robbery</b>		
	Day	1	0.33
	Night	7	2.33
	NA	292	97.33

While 19.33% do not have any addiction, 80.67% was found to have addiction in various forms. 22.33% smoked bidis, while 3.67% smoked cigarettes. 20.33% had addiction in mixed forms 5.67% had addiction of alcohol

and smoking, 11.33% had addiction of tobacco chewing and smoking, 1.33% had addiction of both tobacco chewing and alcohol and 2% had addiction for all three that is smoking, alcohol and tobacco chewing.

**Table 3: Addiction history of the auto rickshaw drivers.**

	Any addiction	Frequency	%
1	Alcohol	5	1.67
2	Tobacco chewing	98	32.67
3	Smoking	78	26
4	Mixed	61	20
5	None	58	19.33



**Figure 1: Health related conditions of the auto rickshaw drivers.**

Apart from these conditions 3.67% suffered from diabetes, 6.67% suffered from hypertension, 2% had history of tuberculosis, 1% had diabetes with hypertension, while 86.66% had no history of any major disease. There was variation in vision problems reported 0.33% had cataract, 15.33% reported decreased vision, 1% had myopia and 1.67% had hypermetropia, 4% of the auto rickshaw drivers reported increased lacrimation, while 0.67% reported pain in the eyes. There was also variation in vision problems while driving at night 10.33% reported decrease in vision, 12% reported lacrimation while 2.67% auto rickshaw drivers reported both decrease in vision as well as lacrimation.

## DISCUSSION

The health complaints like Back pain, headache and neck pain were seen in most of the auto rickshaw drivers which was similar to that seen in the study by Kirkorowicz et al in his study on three wheel drivers in Sri Lanka in which the most frequent health complaint seen in participants was musculoskeletal pain. The findings of the present study regarding substance abuse was also similar to the above mentioned study by Kirkorowicz et al which found that smoking is part of three-wheel driver public social interaction.<sup>5</sup>

Findings of this study was also similar to the study by Omm-e-Hany et al done in rickshaw drivers of Karachi in relation to substance use, health related issues and accident encounter. Only a small fraction of participants had accident encounter.<sup>6</sup>

Study by Subendiran et al reflects the burden they face socio economically by borrowing money, this study have similar findings with regard to the mean income per day.<sup>7</sup>

## CONCLUSION

Health related issues like backache, neck pain and headache elucidates occupational health hazard in auto rickshaw drivers due to vibrations arising due to driving and sitting for prolonged hours while driving and waiting for customers. In this era where everything is expected in an instant, transportation system needs to be improved. Auto rickshaw drivers form a broad part of public transport systems, providing them social security through various schemes should be an essential venture of the government.

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## REFERENCES

1. Sinha AK. Assessment of stress among auto-rickshaw drivers in Bangalore city-a cross sectional study. *Religion*. 2015;309:64-4.
2. Bhatt B, Seema MS. Occupational health hazards: a study of bus drivers. *J Health Management*. 2012;14(2):201-6.
3. Singh SP, Misra SK, Chaudhary SS, Katyal R, Singh A, Joshi HS. Health status of auto-rickshaw drivers plying in Agra city. *MedPulse- Int Med J Res*. 2015;2(4):221-8.
4. Doodebiyi, Dcogwezi, Adegoke B. The Prevalence of Low Back Pain in commercial motor drivers and private automobile drivers. *NJMR*. 2007;12(20):21-4.
5. Kirkorowicz JM, Sapukotana P, De Silva PV, Noda M, de Oliveira JS, Østbye T. Work-Related Stress and Substance Use as Risk Factors for Chronic Disease Among Three-Wheel Drivers in Galle, Sri Lanka: A Qualitative Study. *Int J Occupational Safety Health*. 2014;3(2):21-4.
6. Omm-e-Hany, Sarang M, Asia N, Aamir A, Kanza A. Epidemiological Study of Rickshaw Drivers

Health Status and Accident Encounters in Towns of Karachi. *Bull Env Pharmacol Life Sci*. 2015;3(12):55-9.

7. Subendiran S. Socio-Economic and Lifestyle Problems of Auto-Drivers in Palani. *Int J Adv Res Computer Sci Management Studies*. 2014;2(12).

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