

# Sexual behaviour of auto-rickshaw drivers plying in Agra city

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## Abstract

**Research question:** How is the sexual behaviour of auto-rickshaw drivers plying in Agra city? **Objectives:** 1. to find the sexual behaviour of auto-rickshaw drivers plying in Agra city; and 2. to make suitable recommendations based on study findings. **Methods:** This cross-sectional study was conducted from March 2011 to November 2012 at the auto-rickshaw stand of Agra cantt railway station, Bijlighar and Kothimeena bazar. A total of 440 auto-rickshaw drivers were studied. Study variables: Age, religion, education and socio-economic status of study subjects, age at first sex, number of sexual partners, high risk sexual behaviour etc. **Results:** Mean age of auto-rickshaw drivers (ARDs) was 33.7±9.05 years. 63.4% subjects were Hindus, 28.18% were illiterate and 45.91% belonged to lower middle socio-economic class. Mean age of ARDs at first sex was 20.62±3.46 (range 15-26 years). 54.77% subjects had their first sex in the age of 18-21 years. 39.56% subjects reported having multiple sex partners. Mean number of sexual partners till now was 2.23±1.62 with a range of 0-16. More than 31% of the married ARDs have had pre-marital sex, while 18.99% have had extra-marital sex. 36.81% subjects had unprotected sex with high risk partners in their lifetime. 13.18% subjects had history of sex with commercial sex workers (CSWs); out of them only 32 (55.18%) subjects reported regular condom use with CSW (n=58). 1 (0.23%) subjects had history of sex with men. **Conclusions:** As the prevalence of high risk behaviour among auto-rickshaw drivers was very high; it is recommended to make them aware regarding safe sex and regular condom use.

**Keywords:** Auto-rickshaw drivers (ARDs), Commercial sex workers (CSWs), Non-commercial non-regular (NCNR) partner, Non-commercial regular (NCR) partner, Men having sex with men (MSM) etc.

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## INTRODUCTION

These Auto-Rickshaws constitute an important group of Intermediate public transport (IPT); which is indispensable source of transport in any city of India, especially big cities like Agra. Agra is the city where

stands various historic monuments out of which four are World Heritage Monuments. TajMahal is among the Seven Wonders of the World, so Agra is one of the most favourite destinations for domestic as well as foreign tourists. Every year 7-8 million visitors come to Agra out of which 0.8 million from overseas<sup>1</sup> who usually takes the services of these auto-rickshaw drivers which are about eight thousand in number. Auto-rickshaw drivers in Agra are as much important as in any other city but their duties and responsibilities are even more escalated due to Agra being a tourist place. As soon as a tourist comes to Agra, the first person he/she meets is an auto-rickshaw or taxi driver and also the last person when he /she depart from the city. Not only the tourists but guests from various places and even the local population take the services of these auto-rickshaw drivers every day. Thus these auto-

rickshaw drivers come in contact with so many unknown people every day.

Professional drivers especially the long distance drivers are very well known to have various health problems due to their occupation. Some of them for example are musculoskeletal discomfort, gastrointestinal troubles, neurological and cardiovascular problems etc. Few studies regarding the health of short distance drivers like taxi drivers and Rickshaw pullers are also available but there is paucity of studies on auto-rickshaw drivers. Apart from general health problems, the auto rickshaw drivers of Agra city may get involved in high risk sexual behavior as they visit many places, ferry a large number of tourists and come more in contact of people engaged in high risk sexual behavior like call girls and commercial sex workers (CSWs) regularly. So there are very high chances of involvement of these auto-rickshaw drivers in high risk sexual activities. Besides own health problems, this may have a bearing on disease transmission in their family and community. There have been lots of studies on the sexual behaviour of long distance truck, bus and tempo drivers<sup>2,3,6,8,9,11</sup> but very few studies were conducted among short distance taxi drivers<sup>2,5,7,8,11</sup> and auto-rickshaw drivers<sup>2,4,7,10</sup>. Therefore this study was planned with the objective of finding the sexual behaviour of auto-rickshaw drivers plying in Agra city.

## MATERIAL AND METHODS

**Study population:** Study population was all the auto-rickshaw drivers (ARDs) plying in Agra city. It was learnt that approximately 8000 auto-rickshaw drivers were plying in Agra city at the time of study.

**Calculation of sample size:** In similar study high risk sexual behaviour among subjects was found to be 29.05%. So for 29.05% prevalence rate (p), 95% confidence interval, 80% power of study; and allowable error of 15% the sample size (n) for the study was found to be about 440.

**Study design:** It was a cross-sectional study conducted among auto-rickshaw drivers (ARDs) plying in Agra city.

**Duration of study:** The study was done from March 2011 to November 2012.

**Site of study:** The auto-rickshaw stand of Agra cantt railway station, Bijlighar and Kothimeena bazar were chosen as the site of study. The reason for selection of these sites was the fact that most of the auto-rickshaws of city come to these sites daily and so all the auto-rickshaw drivers plying in Agra city were available for participation in the study.

**Methodology:** The auto-rickshaw stands of Agra Cantt railway station, BijliGhar and KothiMeena Bazaar was chosen as the site of study. Agra Cantt railway station is main railway station of historical Agra city and one of the

busiest railway stations of northern India. BijliGhar area is having another railway station named Agra Fort railway station and old bus stand in its vicinity while KothiMeena Bazaar is having 1 of the 3 available CNG filling stations of Agra city and it is worth mentioning here that all the auto-rickshaws in Agra city is run on this Compressed Natural Gas (CNG). The reason for selection of these sites for present study was the fact that most of auto-rickshaws of Agra city come to these sites daily and so all the auto-rickshaw drivers plying in Agra city were available for participation in the study. Agra cantt railway station is situated 6 kms away from our medical college and hospital; while BijliGhar is situated 4 kms away and KothiMeena bazaar is 2 kms away from our medical college and hospital. All the auto-rickshaw drivers coming to these sites join the queue for ferrying the passengers or for CNG filling and wait for their turn. These auto-rickshaws usually have to wait for half an hour to 1 hour in that queue for their turn. This time was used for interview and examination of these auto-rickshaw drivers; meanwhile their number in the queue was kept intact during that period with the help of other auto-rickshaw drivers. Before interview and examination consent was taken from each subject on a consent form and purpose of study explained to them in detail. They were also explained that findings could be published in a research paper or any magazine without disclosing their identity. On an average 1-2 subjects were studied per day. The interview and examination of each subject lasted for an average of 45 minutes to one hour. If anyone moved out of the queue before completion of data collection; he was contacted on another occasion otherwise they were not considered for the final analysis. Data was collected on 5-6 days a week and so a total of 35-40 subjects were interviewed per month. Data collection was done in day-time only. During day time there is a long queue of auto-rickshaws at all these sites and so drivers had enough time to be interviewed and examined. Also, the day-time was selected to ensure adequate lightening for physical and clinical examination. A pilot study was done on 40 subjects to check the feasibility of the study and to test the Performa. Before starting the interview; full co-operation of each participant was sought and a rapport was established. Subjects were conveniently selected after confirming that they had enough time to be interviewed and examined. Subjects were made to sit comfortably in the room arranged near all the 3 study sites. Confidentiality of the study subjects were assured and maintained throughout the study. Informed consent of each study participant was taken before starting the interview. After obtaining general information including information related to their profession and sexual behaviour, every participant was subjected to thorough

physical examination, clinical examination and various investigations.

**Statistical Analysis:** Percentage calculation was used for data analysis.

## RESULTS

A total 440 auto-rickshaw drivers were studied. Mean age of study subjects was 33.70±9.05 years with a range of 16-65 yrs. 85% of the subjects belonged to 20-49 years of age group which is considered to be the most vulnerable age for HIV/AIDS. [Table 1] All 440 subjects in the present study were male. Majority of subjects were Hindus i.e. 279 (63.40%), followed by Muslims 156 (35.45%), Christian 3 (0.68%) and Sikh 2 (0.46). [Table2] Out of total subjects, 82 (18.64%) subjects were unmarried while 358 (81.36%) were ever married and 146 (40.78%) ever-married out of 358 ever-married had high risk behavior. Majority of the subjects 298 (67.73%) subjects belonged to nuclear type of family. Majority of subjects were illiterate i.e. 124 (28.18%) followed by just literate 116 (26.36%), Primary 68 (15.46%), Middle 54 (12.27%), Secondary 42 (9.55%), Higher secondary 30 (6.82%) and Graduate and above 6 (1.36%). Out of total 440 subjects, 186(42.27%) had high risk sexual behavior and out of total 82 unmarried 40 (48.78%) had high risk sexual behavior. [Table3] Majority of subjects belonged to upper lower 202 (45%) followed by lower middle 196 (43.64%) socio-economic class. Out of 440 subjects, 398 have ever had sex in their life. Among them majority of subjects (78.1%) have had sex before 21 years of age and

in that too 23.77% had sex before 18 years of age. 13.32% of subjects had sex between 21-24 years of age and 8.54% had done it after 24 years of age. [Table4] Distribution of study subjects according to total number of sex partner, majority (50.90%) of subjects had single sex partner, followed by 30.45% subjects who had 2-5 sex partners, 6.36% subjects had 6-10 sex partners and 2.73% had >10 sex partners. 42 (9.54%) subjects had no sex partner till now.[Table5] The distribution of study subjects according to their sexual behavior, 30% of subjects have ever had sex with a NCR partner, 13.18% had sex with a CSW and 5.91% had sex with a NCNR partner. Only one subject (0.23%) has ever had sex with men. [Table6] Distribution of study subjects according to high risk sexual practices, out of 358 married subjects, 146 had either pre or extra-marital sex, so were included in high risk sexual behavior. On the other hand, out of 82 unmarried subjects, 40 had sex with a CSW/NCR/NCNR and so were included in high risk sexual behavior. So out of 440 study subjects, 186 had high risk sexual behavior. [Table7] Among these 186 subjects who had a history of high risk sexual behavior, 87.1% had unprotected sex with high risk partner in life time; while 77.42% subjects had unprotected sex with a high risk partner in past one year and 73.12% subjects were unprotected during last sex with high risk sex partner. History of regular condom use was in 44.82% subjects with CSW, 30.77% with NCR partners, 15.91% with NCNR partners and 100% with male partner.

**Table 1:** Age-wise distribution of study subjects

Age group (yrs.)	Number of subjects	Percentage (%)
≤ 20 yrs.	17	3.86
21-30 yrs.	139	31.59
31-40 yrs.	156	35.46
41-50 yrs.	79	17.96
51-60 yrs.	28	6.36
>60 yrs.	21	4.77
<b>Total</b>	<b>440</b>	<b>100</b>

**Table 2:** Religion wise distribution of study subjects

Religion	Number of subjects	Percentage (%)
Hindu	279	63.40
Muslims	156	35.45
Sikh	2	0.46
Christian	3	0.68
<b>Total</b>	<b>440</b>	<b>100</b>

**Table 3:** Education-wise distribution of study subjects

Education level	Number of subjects	Percentage (%)
Illiterate	124	28.18
Just literate	116	26.36
Primary	68	15.46
Middle	54	12.27

Secondary	42	9.55
Higher Secondary	30	6.82
Graduate and above	6	1.36
<b>Total</b>	<b>440</b>	<b>100</b>

**Table 4:** Distribution of study subjects according to age at first sex

Age at first sex (in yrs)	Number of subjects	Percentage (%)
< 18	93	23.37
18-21	218	54.77
21-24	53	13.32
≥ 24	34	8.54
<b>Total</b>	<b>398</b>	<b>100</b>

**Table 5:** Distribution of study subjects according to total number of sex partner (n=440)

Total number of sex partners	Number of subjects	Percentage
0	42	9.54
1	224	50.90
2-5	134	30.45
6-10	28	6.36
>10	12	2.73
<b>Total</b>	<b>440</b>	<b>100</b>

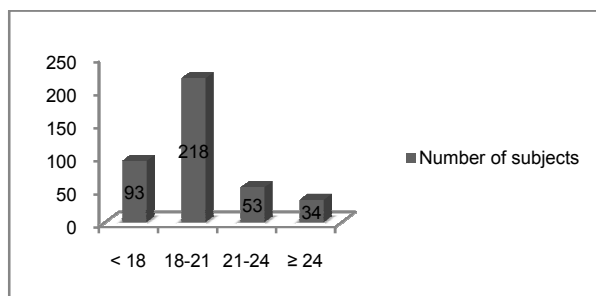
**Table 6:** Distribution of study subjects according to their sexual behavior (n=440)

Sexual behavior	Present		Absent	
	n	%	n	%
Ever had sex with CSW*	58	13.18	382	86.82
Ever had sex with NCNR* partner	26	5.91	414	94.09
Ever had sex with NCR* partner	132	30	308	70
Ever had sex with men	1	0.23	439	99.77

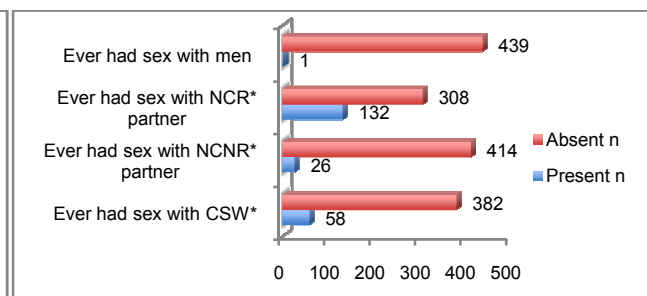
\*(CSW=Commercial Sex Worker; NCNR=Non-commercial Non-regular; NCR=Non-commercial Regular)

**Table 7:** Distribution of study subjects according to high risk sexual practices

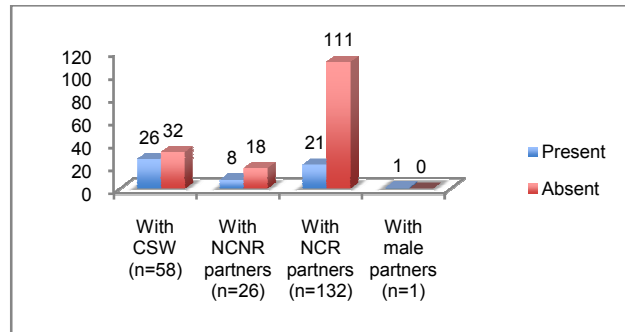
High risk sexual practices	Present		Absent	
	N	%	n	%
<b>A) History of unprotected sex with high risk partners (n=186)</b>				
In life time	162	87.1	24	12.9
In past one year	144	77.42	42	22.58
During last sex	136	73.12	50	26.88
<b>B) History of regular condom use with high risk partners</b>				
With CSW (n=58)	26	44.82	32	55.18
With NCNR partners (n=26)	8	30.77	18	69.23
With NCR partners (n=132)	21	15.91	111	84.09
With male partners (n=1)	1	100	0	0



**Figure 1:** Distribution of study subjects accor. to age at first sex



**Figure 2:** Distribution of study subjects accor to sexual behaviour



**Figure 3:** Distribution of study subjects according to history of regular condom use with high risk partners

## DISCUSSION

It was found that mean age of auto-rickshaw drivers at first sex was  $20.62 \pm 3.46$  (range 15-26 years) in the present study; while mean age at first sex was reported as following in other studies: 20 years by Kaur H *et al* (1998)<sup>4</sup> among auto-rickshaw drivers of Delhi, 24 years by Summary Report of Behavioural Surveillance Survey in Kerala, India (2001)<sup>9</sup>,  $20.0 \pm 3.8$  years by Niraula SR *et al* (2003)<sup>8</sup> among taxi drivers in Nepal and  $23.20 \pm 4.88$  years (range 12-41 years) by Chaudhary S S *et al* (2007)<sup>1</sup> in ARDs of Nagpur city. It was found that 39.55% of the subjects in present study had multiple sexual partners;

while Jayadevan S *et al* (2004)<sup>2</sup> found that 50% of auto/taxi/lorry/truck drivers in Kerala had multiple sexual partners and Kartikeyan S *et al* (2004)<sup>3</sup> found that 29.03% of tempo drivers in Thane gave history of having multiple sex partners and Chaudhary S S *et al* (2007)<sup>1</sup> found that 29.05% of ARDs of Nagpur city had multiple sex partners. Out of total 31.84% of the subjects in present study gave history of pre-marital sex; while 18.99% gave history of extra-marital sex. Various studies show higher pre- and extra-marital sex than the present study.

Study	Subjects (drivers)	Pre-marital sex	Extra-marital sex
The present study	ARDs	31.84%	18.99%
Kaur H <i>et al</i> (1998) <sup>4</sup>	ARDs	28.57%	None
S. R. Niraula <i>et al</i> (2003) <sup>8</sup>	Taxi/bus/truck	45%	21.2%
Kiran E Ravi <i>et al</i> (2004) <sup>5</sup>	Taxi drivers	42.7%	36.3%
Mathew Thomas <i>et al</i> (2004) <sup>7</sup>	Auto/taxi	-	24%
Chaudhary S S <i>et al</i> (2007) <sup>1</sup>	ARDs	25.68%	9.12%

The reason of lower rates of pre and extra-marital sex in our study subjects compared to the other studies may be the fact that very few subjects in the present study used to stay out of home in the night for their work. It was observed that 13.18% of the subjects in present study had history of sex with commercial sex workers (CSWs). Similarly Suryawanshi S *et al* (2004)<sup>10</sup> found that 12% of auto-rickshaw drivers in Aurangabad city had history of sex with CSWs and Chaudhary S S *et al* (2007)<sup>1</sup> found that 15.20% of ARDs in Nagpur city had history of sex with CSWs.

## RECOMMENDATIONS

It was found that 85% of the auto-rickshaw drivers are in the most vulnerable group and more than 42.27% of the auto rickshaw drivers had high risk sexual behaviour. So it is recommended to make them aware regarding safe sex and regular condom use which can be done through health education campaigns by mass media or by health camp.

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