



Original Research Article

## A Cross-Sectional Study on Knowledge and Attitude of HIV/AIDS among Automobile Repair Workers in a Slum of Kolkata

Amiya Das<sup>1</sup>, Saugat Banerjee<sup>1</sup>, Aparajita Dasgupta<sup>2</sup>, Nabarun Karmakar<sup>1</sup>, Sulagna Das<sup>1</sup>, Mahul Mukhopadhyay<sup>1</sup>

<sup>1</sup>Junior Resident, <sup>2</sup>Professor and Head of Department,  
Department of Community Medicine, All India Institute of Hygiene and Public Health, Kolkata, India.

Corresponding Author: Amiya Das

Received: 02/06/2014

Revised: 19/06/2014

Accepted: 23/06/2014

### ABSTRACT

**Background:** Automobile repair workers are an occupational cohort who though is not included in the High Risk Group, are vulnerable to HIV/AIDS infection. In West Bengal, most of the repair workers of automobile garages come from poor socio economic status. Moreover, many of them are migratory workers living far away from their families. As a result, many of them indulge in heavy drinking and are at high risk of visiting Commercial Sex Workers.

**Objective:** to assess knowledge and attitude regarding HIV/AIDS and to find out the association of their knowledge with relevant variables.

**Materials and Methods:** A cross-sectional study was conducted by using pre-designed, pre-tested schedule among 210 male workers from 40 automobile garages at Chetla, Kolkata.

**Results:** The study population were all males with age ranging from 18 to 65 years, mean 37.6 ± 11.6. Majority, had heard of HIV (90%) and AIDS (98.6%). About 91.6% of participants reported unsafe sex as the mode of transmission, and blood transfusion (85.7%), sharing of needles (88.6%) are the other possible modes of getting infected. 54.3% of respondents stated that the disease spreads through mosquito bites, sharing utensils 48.6%. In a logistic regression analysis controlling for Age, Education, Marital status, family type, a significant association was found with Age (AOR=5.714; 95% CI=2.591-12.599), Education (AOR =4.127; 95% CI=1.883-9.046).

**Conclusion:** Overall there is good knowledge about HIV/AIDS among the garage workers. However there are many misconceptions which have to be cleared with appropriate IEC activities.

**Key words:** HIV/AIDS, Automobile repair workers, Knowledge regarding HIV/AIDS.

### INTRODUCTION

Globally, 34.0 million [31.4 million–35.9 million] people were living with HIV at the end of 2011. An estimated 0.8% of adults aged 15-49 years worldwide are living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions.

Sub-Saharan Africa remains most severely affected, with nearly 1 in every 20 adults (4.9%) living with HIV and accounting for 69% of the people living with HIV worldwide. Although the regional prevalence of HIV infection is nearly 25 times higher in sub-Saharan Africa than in Asia, almost 5 million people are living with HIV in South, South-East and East Asia

combined (*UNAIDS Report on the Global AIDS epidemic 2012*).<sup>[1]</sup>

According to the HIV Estimations 2012, the estimated number of people living with HIV/AIDS in India was 20.89 lakh in 2011. The adult (15-49 age-group).

HIV prevalence at national level has continued its steady decline from estimated level of 0.41% in 2001 to 0.27% in 2011. But still, India is estimated to have the third highest number of estimated people living with HIV/AIDS, after South Africa and Nigeria (*UNAIDS Report on the Global AIDS epidemic 2012*).<sup>[1]</sup>

India continues to be in the category of concentrated epidemic owing to very high HIV prevalence among the high risk groups (HRG) compared to that among the general population.<sup>[2]</sup>

Behavioural Surveillance helps policy makers in planning, implementation and monitoring of the interventions to tackle the HIV epidemic. In National Behavioural Surveillance Study (BSS), 2006 on general population, low level of awareness was observed in West Bengal group.<sup>[3]</sup>

Automobile repair workers have high earning potentials and therefore prone to pre-marital sexual behaviour.<sup>[4]</sup>

In West Bengal, most of the repair workers of automobile garages come from poor socio economic background with little education. They have to stay away from their families for a prolonged period.

Moreover, many of them are migratory workers, indulge in heavy drinking and are at higher risk of visiting Commercial Sex Workers (CSWs).<sup>[5]</sup>

Automobile workers are predominantly and almost exclusively male. The vast majority are sexually active. They work on the roadsides and have frequent contact with food vendors and other roadside users. The outdoor nature of their work provides ample opportunities for sexual networking within the community

increasing their risk of acquiring HIV infection.

Therefore, automobile repair workers as an occupational cohort, though not included in the High Risk Group, may run high risk of acquiring infection. However; few studies to assess their perception of HIV/AIDS have been conducted in India, especially in this part of the country.

With this background, the present study was conducted to assess the current level of knowledge of garage workers at Chetla with regard to HIV/AIDS and to explore epidemiological determinants of awareness of HIV/AIDS among them.

*Objective:*

1. To assess knowledge and attitude of HIV/AIDS among automobile repair workers in a slum of Kolkata
2. To find out the socio-demographic characteristics of the study population.
3. To find out association (if any) of socio-demographic characteristics of the study population with level of knowledge and attitude regarding HIV/ AIDS.

## **MATERIALS AND METHODS**

*Study design:*

Descriptive Cross sectional study.

*Study setting:*

The present cross-sectional study was conducted in urban field practice area of Urban Health Centre (UHC), Chetla, Kolkata under All India Institute of Hygiene and Public Health (AIIPH), Kolkata.

*Study population:*

Garage workers aged more than 15yrs working in Chetla. (As according to Factory Act 1948 a labour must be >14 years)

*Sampling design:*

There are 40 garages in the urban field practice area with about 267 workers. All the workers were listed by their name as line listing was done by Occupational Health Department of UHC, Chetla. Verbal informed consent was taken from owners of

each garage and written informed consent was taken from the respondents prior to interview. But 15 workers did not give consent and 42 were absent on the day of survey. So finally the study was conducted among 210 respondents.

*Study period:*

For a period of two months (June 2013 – August 2013)

*Study tool & study technique:*

Participants were interviewed using a pre-designed, pre-tested questionnaire. The questionnaire was pretested among 30 workers in a garage of Kalighat, a nearby area and was modified accordingly. For using it in Bengali vernacular, at first, one forward and one backward translations were done parallel by one medical and one language expert so that the meaning, content and grammatical correctness of the items remained unaltered. The internal consistency of the scale was assessed with Cronbach's alpha, which was 0.67 for the scale. Therefore all efforts were made to maintain semantic equivalence and unambiguousness in the final questionnaire. Its content and face validity was ensured with the help of the experts of the Department of PSM, AIIHPH, Kolkata. Finally the study was approved by the Institution Ethics Committee.

The questionnaire contained mainly 2 parts

Part 1: The socioeconomic Status of the study subjects were elicited e.g. age, religion, literacy, income, type of family,

Part 2: Enquiries were made regarding their perception of HIV/AIDS based on BSS, 2006 questionnaire like whether they have heard of HIV/AIDS, modes of transmission, prevention and cure of HIV/AIDS. To assess the overall knowledge of HIV /AIDS of the participants a uniform scoring system was adopted which was validated by three public health experts. Each question was closed and one of the pre fixed responses

[Yes/No/Do not Know] was the answer. For every 'correct answer' score=3 was allotted and for every 'Do not know' response score=2 was allotted, for 'incorrect answer' score=0 was allotted. There were 20 such questions, with highest attainable score of 60 and lowest score 0. The outcome variable was analyzed by classifying the respondents into 'poor' and 'good' according to, <45 and >= 45 since a score of 45 came to be median of the composite attained score

*Statistical analyses:*

The collected data were coded, entered and analyzed by SPSS for windows version 20.

First, standard descriptive analysis was carried out. Second, the net association of socio demographic and knowledge regarding HIV/AIDS was examined initially by bivariate and finally by multivariate analysis using binary logistic regression adjusting for covariates considered to influence the outcome.

**RESULTS:**

Table 1: 210 automobile workers participated in the study from 40 Garages around Chetla UHC. They were all males with age ranging from 18 to 65 years, mean 37.6 +\_ 11.6. Most of them belonged to Hindu religion (90%), 22.9% were illiterate, and among the literate 40.5% studied up to primary level, 25.7% up to Secondary level. Most of them belonged to joint family (63.3%) and majority (75.5%) were married.

Table 2: Most of the respondents had heard of either HIV (90%) or AIDS (98.6%). Half of the total respondents (53%) knew that HIV/AIDS is preventable, 48.6% believe that by sharing meal with an infected person AIDS can be transmitted, whereas 54.3% told that by mosquito bite AIDS can be transmitted. About the route of transmission heterosexual route, needle sharing, mother to child transmission and blood transfusion route were reported by 91.6%, 88.6%,

74.3%, 85.7% respondents respectively. Only 8.6% knew any facility centre where screening test for HIV/AIDS is performed, 70% were agreed that by using condom it can be prevented. Over all 111 (52.85%) of the respondents had “good knowledge”, the median knowledge score being 45 with minimum 20 and maximum 52.

Table 3: In a logistic regression analysis controlling for Age, Education, Marital status, family type, pci significant association was found with Age (AOR=5.714; 95% CI=2.591-12.599), Education (AOR =4.127; 95% CI=1.883-9.046).

Table1: Socio-demographic Characteristics of the Study Population(n=210).

Socio-demographic Characteristics	Number	Percentage
<b>Age in years</b>		
< 20	3	1.4
20-29	60	28.6
30-39	60	28.6
40-49	54	25.7
>49	33	15.7
<b>Religion</b>		
Hindu	189	90
Muslim	21	10
<b>Educational status</b>		
Illiterate	48	22.9
Primary	85	40.5
Middle	3	1.4
Madhyamik	54	25.7
HS	17	8.1
Bachelor and above	3	1.4
<b>Type of Family</b>		
Nuclear	77	36.7
Joint	133	63.3
<b>Socio-demographic Characteristics</b>		
<b>Marital Status</b>		
Married living with wife	92	43.8
Married not living with wife	67	31.9
Unmarried	51	24.3
<b>SOCIO ECONOMIC class According to modified Prasad scale 2012 (PCI in rs).</b>		
UPPER (>=3900)	0	0
UPPER MIDDLE (1950-3899)	47	22.4
LOWER MIDDLE (1170-1949)	73	34.6
UPPER LOWER (585-1169)	84	39.8
LOWER (<585)	6	2.8

## DISCUSSION

There are very few studies regarding awareness of HIV/AIDS among automobile repair workers in India as per our knowledge. Results of the BSS, 2006 among general population in the subgroup of urban males of West Bengal group were compared with those of the present study. Overall,

poor knowledge regarding transmission and prevention of HIV/AIDS were observed in comparison to urban male population of West Bengal probably because of low educational level of the respondents and less chance of communication with rest of the community owing to the long duration (about 12-14 hours daily) and intensity of

their work load. In BSS 2006, heterosexual route, needle sharing, mother to child transmission and blood transfusion route were reported by 92.9%, 93.8%, 80.5% and 93.2% of respondents respectively, which was much higher proportion than those in the present study (91.6%, 88.6%, 74.3%, 85.7%).

A study conducted by Folashade O Omokhodion et al in Nigeria (2007) among 800 automobile repair workers revealed that 96% had heard about the disease and 95% knew about transmission by sexual intercourse and blood transfusion, again much higher in comparison to the present study. [6]

Table 2: Response of Knowledge and attitude of the study population related to HIV/AIDS (N=210).

Item	Yes N(%)	No N(%)	Do not know N(%)
Ever heard of HIV?	189(90)	21(10)	---
Ever heard of AIDS?	207(98.6)	3(1.4)	---
Can HIV/AIDS be prevented?	111(53)	15(7)	84(40)
Can a person get HIV/AIDS by sharing a meal with someone who is infected?	102(48.6)	75(35.7)	33(15.7)
Can HIV/AIDS be transmitted By Mosquito bite ?	114(54.3)	54(25.7)	42(20)
Can HIV/AIDS be transmitted through needle sharing?	186(88.6)	3(1.4)	21(10)
Can HIV/AIDS be transmitted through blood transfusion?	180(85.7)	---	30(14.3)
Can HIV/AIDS be transmitted from mother to child transplacentally?	156(74.3)	15(7)	39(18.7)
Can HIV/AIDS be transmitted from mother to child through breast feeding?	129(61.4)	21(10)	60(28.6)
Can Healthy-looking person also transmit HIV/AIDS	141(67.1)	42(20)	27(12.9)
Can HIV/AIDS be transmitted through sexual contact?	192(91.6)	3(1.4)	15(7)
Can people protect themselves from HIV/AIDS by having one uninfected faithful sex partner?	159(75.6)	6(2.8)	45(21.6)
Any medicine that can cure a HIV/AIDS patient	96(45.7)	42(20)	72(34.3)
Aware of any facility in your area where you can get tested for HIV/AIDS	18(8.6)	180(85.7)	12(5.7)
Do you know anyone who is infected with HIV/AIDS?	30(14.3)	180(85.7)	---
Do you know anyone who has died of HIV/AIDS?	21(10)	189(90)	---
Ever heard of ICTC?	60(28.6)	135(64.4)	15(7)
Ever heard /seen a condom?	168(80)	3(1.4)	39(18.6)
condom use can prevent HIV/AIDS	147(70)	6(2.8)	57(27.2)

Table 3: Bivariate and Multivariate analysis using binary logistic regression adjusting for covariates considered to influence the outcome ("Goodknowledge" of HIV/AIDS=52.85%).

VARIABLE	CATEGORY	OR (CI)	AOR (CI)#
AGE (YEARS)	<37	2.875(1.640-5.039)	5.714(2.591-12.599)
	>= 37*	1	1
EDUCATION	LITERATE	3.100(1.560-6.162)	4.127(1.883-9.046)
	ILLITERATE*	1	1
FAMILY TYPE	JOINT	1.249(0.712-2.191)	0.527(0.232-1.196)
	NUCLEAR*	1	1
MARITAL STATUS	MARRIED	0.727(0.384-1.376)	1.260(0.605-2.625)
	UNMARRIED*	1	1
PCI(RS)	>1250	1.425(0.827-2.457)	1.218(0.640-2.316)
	=<1250	1	1
*referrent. p < 0.05,# Hosmer and Lemeshow test: Nagelkerke R square 0.23			

Over all knowledge level was better in our study population than a Community-based cross sectional study which was done among 850 young men and women in the age group of 18-30 years, belonging to Kuppam Mandal, Andhra Pradesh which revealed about 69% of participants reported unsafe sex as mode of transmission, while blood transfusion (53%), sharing of needles (51%) were the responses regarding other possible modes of getting infected. Only 32% of study population were aware about breastfeeding as one of the modes of transmission. 17% of respondents stated that the disease spread through mosquito bites and by sharing utensils (20%).<sup>[7]</sup>

A community-based cross-sectional study was conducted among youths aged 15-24 years in rural areas of the Saurashtra. According to them out of total participants 60% knew something about HIV. Of those who had heard of HIV, more than 90% subjects knew the modes of transmission and more than 80% were aware of modes of prevention of HIV/AIDS. In our study only 53% knew that AIDS is preventable.<sup>[8]</sup>

#### **Limitations:**

First of all, due to time and resource constraint, only a small population could be approached and thus the results obtained might not be applicable to this occupational cohort in other urban areas of the state. Further longitudinal studies involving larger subpopulation is required to assess their knowledge, attitude and practices over time. Secondly, questions on sexual practices were excluded from the final version of the questionnaire as the issue was found to be too sensitive and numbers of non responders found too high, possible reason might be that data was collected in open space and proper privacy could not be provided. However, efforts were made to overcome the above mentioned limitations by recruiting male interviewer, engaging local health workers during visits and rapport

building with the community prior to the study

#### **CONCLUSION**

Appropriate communication with them by both individual and group approach is required to improve the knowledge of the automobile workers regarding HIV/AIDS since this will in the long run ensure a healthy behavioural pattern for prevention of this dreaded disease in this occupational cohort. The field staff and the health personnel of Urban Health Centre, Chetla should gear themselves up to impart an intensive health education programme to these automobile workers who are at high risk of acquiring of HIV/AIDS.

#### **ACKNOWLEDGEMENT**

The authors are grateful to Dr. Aparajita Dasgupta, Professor and Head, Department of Preventive and Social Medicine, All India Institute of Hygiene and Public health, Kolkata, for providing valuable suggestions and above all, owners and workers of all the automobile garages who participated in the study for their whole-hearted co-operation.

#### **REFERENCES**

1. Govt. of India. Ministry of Health and Family Welfare. Dept. of AIDS Control. National AIDS Control Organization. Annual Report 2012-13. Available from: <http://www.nacoonline.org/upload/REPORTS/NACO%20Annual%20Report%202012-13.pdf>.
2. Department of AIDS Control, Ministry of Health and Family Welfare, Government of India. Annual Report 2008-2009). Available from: [http://nacoonline.org/upload/Publication/Annual\\_Report\\_NACO\\_2008-09.pdf](http://nacoonline.org/upload/Publication/Annual_Report_NACO_2008-09.pdf).
3. National Behavioural Surveillance Study (BSS) 2006. National AIDS Control Organization. Ministry of Health and Family Welfare. Government of

India. Available from:  
[http://nacoonline.org/upload/NACO%20PDF/General\\_Population.pdf](http://nacoonline.org/upload/NACO%20PDF/General_Population.pdf).

4. Modi S, Bansal RK, Naik J, Naik P. Bansal M, Mallick K (2009). Premarital Sexual Profile of Automobile Workers in Surat City. *Journal of Community Medicine*; 5: 24-28.
5. Bansal RK (2000). Adolescent's sexual and reproductive health, behavioural change and the application of psychosocial theories. *Indian J Medical Sciences*; 54: 8- 13.
6. Folashade O Omokhodion, Kayode O Osungbade1, Miia. A Ojanen2, Noël. C. Barengo Knowledge About HIV/AIDS and Sexual Practices Among Automobile Repair Workers in Ibadan, Southwest Nigeria *African Journal of Reproductive Health* Vol. 11 No.2 August, 2007
7. K. Malleshappa1, Shivaram Krishna2, Shashikumar3 Awareness and attitude of youth toward HIV/ AIDS in rural Southern India *Biomedical Research* 2012; 23(2): 241-24
8. Sudha B. Yadav, Naresh R. Makwana, Bhavin N. Vadera, Kishor M. Dhaduk, Kapil M. Gandha Awareness of HIV/AIDS among rural youth in India: A community based cross-sectional study *J Infect Dev Ctries* 2011; 5(10):711-716.

How to cite this article: Das A, Banerjee S, Dasgupta A et. al. A cross-sectional study on knowledge and attitude of HIV/AIDS among automobile repair workers in a slum of Kolkata. *Int J Health Sci Res.* 2014;4(7):49-55.

\*\*\*\*\*

#### **International Journal of Health Sciences & Research (IJHSR)**

#### **Publish your work in this journal**

The International Journal of Health Sciences & Research is a multidisciplinary indexed open access double-blind peer-reviewed international journal that publishes original research articles from all areas of health sciences and allied branches. This monthly journal is characterised by rapid publication of reviews, original research and case reports across all the fields of health sciences. The details of journal are available on its official website ([www.ijhsr.org](http://www.ijhsr.org)).

Submit your manuscript by email: [editor.ijhsr@gmail.com](mailto:editor.ijhsr@gmail.com) OR [editor.ijhsr@yahoo.com](mailto:editor.ijhsr@yahoo.com)