



## STUDY OF HIV PREVALENCE IN LONG DISTANCE TRUCKERS AND IMPACT OF TARGETED INTERVENTION PROGRAMME

\*Samar .Q .Khan, Dilip. S. Gedam and Monu Singh

Department of Microbiology, Indira Gandhi Government Medical College, Nagpur.

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### ABSTRACT

Background : Long-distance truck drivers were defined as truck drivers travelling to long destinations from their point of origin (800kms). It is well documented that long-distance truck drivers and their helpers (collectively referred to as truckers) play an important role in the spread of sexually transmitted infections (STIs) and the human immunodeficiency virus (HIV) in many parts of the world, including India. Objectives: To know the prevalence of HIV in long distance truckers and to assess the impact of targeted intervention programme among long distance truckers. Methods and Result: Mobile ICTC team along with NGO counsellors counselled, asked questions and collected samples of the truckers for HIV testing according to NACO guidelines. A total of 1607 truckers were contacted and interviewed. Of the truckers who participated in the study, 996 (61.97%) were drivers, 611 (38.03%) co-drivers (helpers). HIV prevalence of 1.43% was found in the truckers in this study. HIV prevalence was less in those who were literate more than 10th standard (0.20% in truck drivers), who had experience of less than 5 yrs (0.50% in truck drivers), those who used condoms (0.60% in truck drivers) those who had interacted with HIV counselling programme earlier (0.20% in truck drivers). Discussion: National prevalence of HIV in long distance truckers is 2.6% and in our study the prevalence is found to be 1.43%, which is relatively low in comparison to other studies. Several studies across the country have confirmed high HIV ((2%–16%) prevalence among long-distance truckers. Conclusion: From this study we conclude that HIV prevalence is low in our region in long distance truckers and it is due to targeted intervention programme.

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### INTRODUCTION

Long-distance truck drivers were defined as truck drivers travelling to long destinations from their point of origin (800 kms).<sup>1</sup> The Trucker's role in fuelling AIDS pandemic especially in context to India is highly crucial. India has one of the largest road networks in the world with an estimated 5–6 million truckers, nearly half work on long-distance routes across the country. Of whom 3.5 million are long distant truckers. Practically truckers take India on fast lane to HIV/AIDS.<sup>2</sup> At population levels truckers are 2-5 times more likely to be HIV infected than men in other professions.<sup>3</sup>

It is well documented that long-distance truck drivers and their helpers (collectively referred to as truckers) play an important role in the spread of sexually transmitted infections (STIs) and the human immunodeficiency virus (HIV) in many parts of the world, including India. Recent evidence suggests that about one-quarter of the long-distance truck drivers in India have sex with female sex workers (FSWs), constituting about 15%–20% of clients of FSWS and a substantial proportion have sexual relationships with casual unpaid female partners.<sup>1</sup>

Studies conducted during 2007-2010 have shown that the rate of consistent condom use among truckers in India was low, at 58%–74% with FSWS and 18%–37% with casual unpaid female sex partners.<sup>4-7</sup> Several studies across the country have confirmed high HIV ((2%–16%) and STI (3%–13%) prevalence among long-distance truckers<sup>1</sup>

HIV prevalence rates have remained low in India with high prevalence among high risk and vulnerable groups including truckers.<sup>3</sup>

#### Objectives

1. To know the prevalence of HIV in long distance truckers
2. To assess the impact of targeted intervention programme among long distance truckers

### MATERIAL AND METHODS

This study was carried in mobile ICTC in the Department of Microbiology, Indira Gandhi Government Medical College, Nagpur.

It was conducted with NGO'S

- 1.Young's Men Christian Association (YMCA)
- 2.Indian Social Service Unit of Social Education Nagpur (ISSUSE)

The study was conducted from the period from April 2012 to December 2014. Mobile ICTC counsellors along with the above mentioned NGO counsellor visited the Dhaba's and Naka's, where the truckers are usually halting while travelling.

Our counsellors with NGO counsellor after taking consent from them, counselled the long distance truckers and helpers travelling a minimum of 800 kms. After counselling blood samples were collected which were subjected to HIV testing according to NACO guidelines.<sup>8</sup>

### Observations

A total of 1607 truckers were contacted and interviewed. Of the truckers who participated in the study; 996 (61.97%) were drivers, 611(38.03%) co-drivers (helpers). More than half of truckers 1209 (75.23%) were less than 35 years of age,

the experience of more than 5 years was seen more in truck drivers 682 (68.47%).

In our study majority of the truckers were aware about unsafe practices that transfer HIV. Most of truckers had heard of HIV/AIDS and were aware of its spread through sexual route 1,495 (93.03%), through mother to child 1,061 (66.02%) and through other routes of transmission, i.e. infected needle and blood transfusion 890 (55.33%) correctly (as shown in Table 2).

In our study the majority of the truckers 1,447 (90%) used condoms due to awareness due to frequent counselling and free supply. As the truck drivers are frequently travelling the same route most of the truckers were encountered by ICTC counsellor earlier and hence were oriented and aware about the prevention of HIV/AIDS by using condoms.

Table 3. is showing the HIV status in the truckers which includes 21(2.1%) HIV positive truck drivers with 2(0.32%) HIV positive helpers summing to a total of 23(1.43%) HIV positive truckers. Thus the prevalence of HIV/AIDS in this study is found to be 1.43%.

**Table 1** Distribution of selected characteristics among truckers

Variable	Categories	Truckers (N=1607)		
		Driver n=996(%)	Helpers n=611(%)	Total N=1607(%)
Age	16-24	142(14.25)	406(66.44)	548(34.10)
	25-35	526(52.81)	135(22.09)	661(41.13)
	>35	328(32.93)	70(11.45)	398(24.76)
Marital status	Unmarried	236(23.69)	443(72.50)	679(42.25)
	Previously married	3(0.3)	1(0.16)	4(0.24)
	Currently married	757(76)	167(27.33)	924(57.49)
Current state of residence	Maharashtra	755(75.80)	486(79.54)	1241(77.2)
	Other states	241(24.19)	125(20.45)	366(22.77)
	<10 <sup>th</sup> standard	651(65.36)	345(56.46)	996(61.98)
Literacy	>10 <sup>th</sup> standard	345(34.63)	266(43.53)	611(38.02)
	Graduation	0(0)	0(0)	0(0)
Duration of work as a truck driver or helper (yrs)	>5	682(68.47)	196(32.07)	878(54.63)
	<5	314(31.52)	415(67.92)	729(45.36)
Trucking routes frequently taken	Hyderabad National highway	221(22.18)	126(20.62)	347(21.59)
	Mumbai National highway	348(34.93)	175(28.64)	523(32.54)
	Jabalpur national highway	209(20.98)	145(23.73)	354(22.02)
	Raipur National highway	218(21.88)	165(27)	383(23.83)
	Never had sex	79(7.9)	116(18.98)	192(11.94)
Sex with female sex worker	No sex in last 6 mths	660(66.26)	320(52.37)	980(60.98)
	Had sex in last 6 months	257(25.80)	175(28.64)	432(26.88)
Used condom	YES	979(98.3)	468(76.59)	1447(90)
	NO	17(1.7)	143(23.40)	160(10)
Ever contact with HIV programme	YES	880(88.35)	533(87.23)	1413(87.93)
	NO	116(11.64)	78(12.76)	194(12.07)
HIV status	Positive	21(2.1)	2(0.32)	23(1.43)
	Negative	975(97.89)	609(99.67)	1584 (98.57)

signifying that mostly young adults are in the occupation. Only one fourth truckers 398 (24.77%) were of above 35 years of age as shown in Table 1.

Table 1 also show all the details of demographic characteristics and other variables of participants. In context to literacy maximum 996 (61.98%) truckers were literate below 10<sup>th</sup> standard but only few 611 (38.02%) were above 10<sup>th</sup> standard and no one was graduate or above.

Total 878 (54.64%) of truckers had more than 5yrs experience, while 729 (45.36%) had less than 5yrs experience. Amongst them maximum helpers 415 (67.92%) had experience less than 5 years in comparison to truck drivers 314 (31.53%). While

**Table 2** Awareness about HIV/AIDS in relation to mode of spread (n=1607)

Mode of Spread	No of truckers Aware (%)
Unprotected sex	1495(93.03)
Kissing	64(3.9)
Hugging	80(4.9)
Shaking hands	80(4.9)
Use of infected needles / Blood transfusion	890(55.38)
From mother to child	1061(66.02)

**Table 3** HIV Status in Truckers

Truckers	HIV positive(%)	HIV negative(%)	Total
Truck Drivers	21(2.10)	975(97.89)	996(100)
Helpers	2(0.32)	609(99.68)	611(100)
Total	23(1.43)	1584(98.57)	1607(100)

**Table 4** Agewise distribution of truckers with HIV Status (n=23)

		Truck Driver (Total=996)		Helper (Total=611)	
		HIV positive(%)	HIV negative(%)	HIV positive(%)	HIV negative(%)
Age	16-24	7(0.70)	135(13.55)	2(0.32)	404(66.12)
	25-35	10(1)	516(51.80)	0	135(22.09)
	>35	4(0.40)	324(32.52)	0	70(11.45)
Marital status	Unmarried	14(1.40)	229(22.99)	2(0.32)	441(72.17)
	Previously married	0	3(0.30)	0	1(0.16)
	Currently married	7(0.70)	743(74.59)	0	167(27.33)
Current state of residence	Maharashtra	14(1.40)	741(74.39)	2(0.32)	484(79.21)
	Other states	7(0.70)	234(23.49)	0	125(20.45)
	<10 <sup>th</sup> standard	19(1.90)	632(63.45)	2(0.32)	343(56.13)
Literacy	>10 <sup>th</sup> standard	2(0.20)	343(34.43)	0	266(43.53)
	Graduation	0	0	0	0
Duration of work as a truck driver or helper (yr)	>5	16(1.60)	642(64.45)	2(0.32)	194(31.75)
	<5	5(0.50)	309(31.10)	0	415(67.92)
Trucking routes frequently taken	Hyderabad national highway	6(0.60)	215(21.58)	0	126(20.62)
	Mumbai national highway	5(0.50)	343(34.43)	0	175(28.64)
	Jabalpur national highway	5(0.50)	204(20.48)	1(0.16)	144(23.56)
	Raipur national highway	5(0.50)	213(21.38)	1(0.16)	164(26.84)
Sex with female sex worker	Never had sex	0	79(7.93)	0	116(18.98)
	No sex in last 6 mnths	5(0.50)	655(65.76)	0	320(52.37)
	Had sex in last 6 months	16(1.60)	241(24.19)	2(0.32)	173(28.31)
Used condom	YES	6(0.60)	973(97.69)	0	468(76.59)
	NO	17(1.70)	0	2(0.32)	143(23.40)
Ever contact with HIV programme	Yes	2(0.20)	878(88.15)	0	533(87.23)
	No	19(1.90)	97(9.73)	2(0.32)	76(12.43)

Table IV. is showing many variables including age wise distribution of HIV positivity. Truck drivers in the age group of 16-24 yrs, 25-35 yrs and more than 35 yrs show HIV positive cases of 7(0.70%), 10(1%) and 4(0.40%) respectively suggesting more positive cases in 25-35 yrs age group. While in helpers HIV positivity is more in younger age groups i.e. 2 (0.32%) in 16-24 yrs, with no positive cases (0%) in 25-35 yrs and more than 35 years.

In our study amongst truck drivers 19 (1.90%) are HIV positive and are literate less than 10<sup>th</sup> standard while only 2 (0.2%) are HIV positive and literate above 10<sup>th</sup> standard. Whereas in case of helpers those who are less than 10<sup>th</sup> standard literate, only show HIV positivity of 0.32%(2). With regards to literacy HIV prevalence was more in the truckers literate below 10<sup>th</sup> standard.

Duration of work as a truck driver and helper for more than 5 yrs had HIV positivity of 1.60%(16) and 0.32%(2) respectively. While only 5(0.50%) of truck driver were HIV positive who had experience of less than 5years.

In context of marital status most of the HIV positive truckers were unmarried 14(1.40%) truck drivers and 2(0.32%) helpers.

Majority of the HIV positive truckers including 14(1.40%) truck drivers and 2(0.32%) helpers were from Maharashtra .

Maximum number of truckers including 16(1.60%) tuck drivers and 2(0.32%) helpers who had sex with FSW in last 6 months were HIV positive.

The trucker drivers exposed to HIV awareness programme had low 2(0.20%) HIV positive cases as compared to those who were 19(1.90%) not exposed to any HIV awareness programme.

## DISCUSSION

National AIDS control program in India has been recognised globally as a success story. HIV prevention services for truckers in India are provided by NACO through large number of organisations at State and National levels. These NGOs are providing targeted interventions and HIV preventing services. NACO had started targeted intervention programme since 2008 in Nagpur.<sup>8</sup> The NGOs working under this programme for long distance truckers were Youngs Men Christian Association (YMCA) and Indian Social Service Unit of Social Education Nagpur (ISSUSE) in Nagpur.

Our study shows HIV prevalence of (1.43%) in long distance truckers. A study by Premkumar *et al* shows HIV prevalence of (2.8%).<sup>3</sup> HIV prevalence similar to Premkumar *et al* was reported among Avahan study.<sup>5</sup> Relatively high HIV prevalence was seen in other studies.<sup>9-12</sup>

According to HIV Sentinel Surveillance (HSS) 2011, Nagpur city had HIV prevalence of (2%) in long distance truckers and Maharashtra had prevalence of (1.61%) and India had prevalence of (2.6%).<sup>13</sup> HIV prevalence in Truckers in our region may be less comparatively to other studies due to low prevalence of HIV in FSW which is shown in a study by Gedam and Sarfaraz.<sup>14</sup> They found low prevalence of HIV (0.44%) in FSW in this Nagpur zone due to target interventional programmes.<sup>14</sup>

With regards to literacy HIV prevalence is more in the truckers 19(1.90%) in truck drivers and 2(0.32%) in helpers who are literate below 10<sup>th</sup> standard. In context of marital status most of the HIV positive truckers are unmarried [14(1.40%) truck drivers and 2(0.32%) helpers].Majority of the HIV positive truckers including 14(1.40%) truck drivers and 2(0.32%) helpers were from Maharashtra. Maximum number of truckers including 16(1.60%) tuck drivers and 2(0.32%) helpers who had sex with FSW in last 6 months were HIV positive.The

trucker drivers exposed to HIV awareness programme had low 2(0.20%) HIV positive cases.

In our study the majority of the truckers 1,447(90%) used condoms due to awareness due to frequent counselling and free supply. As the truck drivers are frequently travelling the same route most of the truckers were encountered by ICTC counsellor earlier and hence were oriented and aware about the prevention of HIV/AIDS by using condoms. Also HIV prevalence was low in those who used condoms 0.60% (6 truck drivers).<sup>15</sup>

Duration of employment (>5 yrs) as a truck driver or helper also show high association with HIV prevalence 16(1.60%) in truck drivers and 2(0.32%) in helpers, similar to findings of Mishra R *et al.*<sup>1</sup>

Awareness in long distance truckers in our study was found to be high as compared to studies done by Sanjeev *et al*<sup>16</sup> and some other studies of nineteen ninties.<sup>17, 18</sup> Truckers at large were aware of HIV/AIDS and its transmission through sexual route, though conceptual and comprehensive knowledge about HIV/AIDS was lacking. In the present study awareness about HIV/AIDS in truckers was 1,495(93.03%). Similar findings were seen in other study.<sup>2</sup>

‘With regards to possible effects of program interventions’: It was evident from the study results that most truckers are being benefitted from targeted intervention programmes. Thus, the present program interventions are proving practically effective for the bridge populations of truckers. Hence HIV positive cases have been found to be low 2(0.20%) in those truck drivers who had history of contact with HIV programme.

## CONCLUSION

The findings of this study can serve as a stepping stone in evaluation of such interventions in the future. Moreover, providing counselling as well as testing for HIV/AIDS to be highly successful among truckers in India, who are now being recognized as a major source of HIV infection transmission from destination areas to source area.

From this study we conclude that HIV prevalence is declining among long distant truckers due to targeted intervention program and India is on the track of global targets by effectively educating these bridge populations of long distant truckers.

## Acknowledgements

To NGOs:

1. Youngs Men Christian Association (YMCA) and
2. Indian Social Service Unit of Social Education Nagpur (ISSUSE)

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