

Full Length Research Paper

Trends in knowledge, risk behaviour, sexually transmitted infections (STIs) symptoms and associated factors among truckers and helpers in South India over a 12-year span

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Prevalence of Human immunodeficiency virus (HIV) among truckers and helpers (TH) is 10 times higher than in the general population. TH are more likely to engage in high-risk sexual behaviour that makes them vulnerable to sexually transmitted infections (STI) and HIV. This paper aims to comprehend the trends in knowledge, risk behaviours, reported STIs and associated factors among TH over 12 years. Data from 12 rounds of Behavioural Surveillance Surveys (BSS) conducted since 1997 were used. A sample of 800 TH in the ratio of 70:30 was included from 5 districts of Tamil Nadu in all the 12 rounds. A structured interview schedule was used to collect data. The surveys indicated a higher knowledge level, but reported a lower level of knowledge without misconception. Sex with paid partners increased from 26.5 to 45.1%. But, other factors such as decreasing number of paid partners (from an average of 8 to 4), increasing consistent condom use (CCU) (44.8 to 85.6%), and treatment seeking behaviour indicate positive protective trends. Low level of knowledge without misconception and self-risk perception are prime concerns. As TH are potential and vulnerable bridge population, it is vital to have intensive HIV and acquired immunodeficiency syndrome (AIDS) interventions among them.

Key words: Sexual risk behaviour, condom usage, human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS), sexually transmitted infections.

INTRODUCTION

India has nearly 5 to 6 million truckers and helpers (TH), of which about 2 to 2.5 million operate on long-distance routes (NACO, 2007; World Bank, 2008). This largely unorganized sector and almost entirely in the private domain comprise truck operators, drivers, helpers, intermediaries and users (Pandey et al., 2008). As long-distance truck drivers and their helpers generally spend a long time on the highways away from their home, they are more likely to engage in high-risk sexual behaviour

than short-distance truckers (Sunmola, 2005; Pandey et al., 2008; Atilola et al., 2010). Truck and bus terminals, rest stops and roadside eateries (dhabas) along transport routes are meeting points for sex workers and their clients, mostly truckers and their assistants or aides (World Bank, 2008). The long-distance lorry drivers usually pick up sex workers from "dhabas" on road side, use them and leave them at some other dhaba where they are used by other drivers and local youths. Studies reported that around 36% of truckers are clients of sexworkers (FHI, 2001) and 15 to 20% of sex worker's clients appear to be truckers (NACO, 2001). The Indian drivers typically claimed to have had three, usually commercial, sex partners in the last week and large

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numbers of non-regular partners in the last year, most claimed 50 to 100 (Marck, 1999). Other studies reported that around 70 to 90% of long distance truck drivers have multiple sexual partners including Female sex workers (FSW), and only a very small percentage of them use condoms (Rao et al., 1999; Bryan et al., 2001; Manjunath et al., 2002; Chaturvedi et al., 2006). Studies of long-haul truck drivers suggest that they have low Human immunodeficiency virus/Sexually transmitted infections (HIV/STI) knowledge, higher reported rates of STIs (Manjunath et al., 2002), low or inconsistent condom use (Gibney et al., 2002; 2003), and engage in illicit drug use (Gibney et al., 2003; McCree et al., 2010). This results in a high prevalence of STI among TH than in the general population (Baishali et al., 2007; ILO, 2008).

Several reports of truck drivers sampled from roadside stop areas and trucker unions suggest a HIV prevalence of 4 to 11% (FHI, 2001), 11 to 31 times higher than the HIV prevalence in the general Indian adult population (UNAIDS, 2007). Surveillance studies indicate 10 times higher prevalence of HIV among truckers than that in the general population, that is, 7.4% among truckers as compared to 0.7% in the general population. It was also predicted that there would be 0.6 to 0.7 million HIV positive truckers by 2005, with an estimated prevalence of 11.2% among long-distance truckers in India (World Bank, 2008). The high-risk behavior coupled with the mobility of these long-distance truckers makes them potential of spreading HIV not only to different geographical areas (NACO, 2007; Wong et al., 2007), but also to their spouses, casual and regular partners (Singh et al., 1994; Gangakhedkar et al., 1997; Bharat and Aggleton, 1999). The long-distance truck drivers and FSW on the high-ways are hence viewed as important sources of HIV transmission (Singh et al., 1994; Pais, 1996).

Though TH are one of the key potential risk groups, HIV prevention programs for them in India are limited (Schneider et al., 2012). HIV programs in India are implemented at the state level through State AIDS Control Societies and state-level truckers were generally covered under Targeted Interventions funded by the National AIDS Control Organization. However, long-distance truckers who worked on the national highways were not targeted specifically in these interventions (Chandrasekaran et al., 2006; Claeson and Alexander, 2008). In spite of the higher vulnerability among TH, HIV programs in India scaled down the interventions among TH along the highways since 2006. Though it is evident that TH are associated with the spread of STIs including HIV (Mbugua et al., 1995; Rao et al., 1999; Manjunath et al., 2002; Sunmola, 2005; Malta et al., 2006; Alam et al., 2007; NACO, 2007; Pandey et al., 2011), there is a dearth of information on their sexual behaviour that makes them vulnerable for STI and HIV infection. There are not many published studies that throw light on the changing trends of knowledge and their behavioural pattern. This study aims to understand the current level and the

changing trends in the socio-demographic pattern, knowledge level, risk behaviours, prevalence of STI and the associated factors.

METHODOLOGY

Sample size

Twelve (12) rounds of Behavioural Surveillance Surveys (BSS) were conducted by AIDS Prevention and Control Project (APAC) since 1997. The sample was determined based on the estimated number of subjects needed to detect 7.5% change in the key risk behaviour - inconsistent condom use - which was 45% in 1997. The sample size needed with 5% alpha, 20% beta errors and 20% non-response rate was 800 participants. Hence, a sample of 800 participants with a ratio of 70:30 TH was recruited in all 12 rounds of the survey.

The surveys were conducted in 5 districts of Tamil Nadu namely Chennai, Madurai, Salem, Vellore and Dindigul. These districts were selected based on the volume of TH and connectivity with the highway network. Twelve (12) towns were randomly selected from these districts. Samples were selected from the Truckers site lists, which were derived from the traffic census exercise carried out in those towns. The same towns and the sites were repeated in all the rounds. Long-distance TH who are aged 18 years and above and staying away from home for at least a week on regular intervals were included in the survey.

A structured interview schedule was used in all the rounds of BSS. However, as the HIV/AIDS program evolved, few questions were added based on the need of the program, without modifying the existing questions. The interviews were administered by trained interviewers. Five (5) days intensive training was provided to all the field personnel. The field executives reviewed all the completed interview schedules and those which failed in the pre-described quality checks were replaced with new interviews from the same location.

In this study, Casual partners were defined as sexual partners who were not married to TH and never lived with and not commercial partners. Regular partners were spouse or live-in exclusive sexual partners. Paid partners are partners with whom TH had sex in exchange of money or kind. Self-risk perception was assessed by asking "In your opinion, what are the chances of a person like you contracting HIV/AIDS?". The responses were categorized as, "there is a chance or no chance". Consistent condom use (CCU) was measured by asking "In general with what frequency did you use condom during the past 12 months". The responses were measured as "every time" or "not every time". Knowledge about HIV/AIDS was measured using 4 questions; each was responded as yes or no. If a minimum of 2 questions were answered, it was considered as having knowledge. Similarly knowledge without misconception was measured using 4 questions on the various misconception related to the spread of HIV.

Statistical methods

Frequency distributions and descriptive analyses were done to screen and clean the data. As bivariate analyses, chi-square test and analysis of variance (ANOVA) were done. The variables which were significant at $p < 0.40$ were considered as potential predictors for multivariate analyses. In logistic regression analyses, Enter method was used to obtain odds ratio and 95% Confidence interval. Hosmer and Lemeshow chi-square test was used to assess the Goodness of fit of the model. In logistic regression analyses, Nagelkerke R^2 was used and in multiple regression analyses, R^2 statistics was used to study the contribution of study variables to

Table 1. Description of socio-demographic, knowledge and behaviour indicators from 1997 to 2008 - TH.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2008
	%	%	%	%	%	%	%	%	%	%	%
Age (in Years)											
≤ 30	67	69	70	67	65	69	60	51	55	43	48
> 30	33	31	30	33	35	31	40	49	45	57	52
Marital status											
Unmarried	49	43	52	43	49	46	41	37	39	28	31
Married	51	57	48	57	51	54	59	63	61	72	69
Education											
Illiterate	12	8	14	9	8	6	5	7	2	6	7
Literate	88	92	86	91	92	94	95	93	98	94	93
Income (in INR)											
≤2000								33	24	9	5
>2000								67	76	91	95
Occupation											
Trucker driver	61	65	64	64	58	70	69	67	73	80	67
Cleaner/Helper	39	35	36	36	42	30	31	33	27	20	33
Condom usage at last sex											
Casual Partner (yes)	19	39	38	43	46	37	35	20	35	32	65
Paid Partner (yes)	66	75	80	84	94	91	91	89	89	91	95
Self-risk perception											
Knowledge without misconception	49	28	26	39	25	36	31	15	20	18	40

the outcome. Analyses were done using SPSS version 16.0

Adherence to ethical standards

The study protocol conformed to Helsinki Declaration and Indian Council of Medical Research ethical guidelines. The ethical approval was obtained from Institutional Review Board of Christian Medical College Hospital, Vellore. Interviews were conducted after getting informed consent from each subject. Informed consent provided details on the purpose of the study, procedures, potential benefits and assurance of confidentiality of details collected. The respondents voluntarily participated and were given the freedom to refuse to answer any questions and withdraw at any time during data collection.

RESULTS

The distribution of socio-demographic and economic variables of TH from 1997 to 2008 is shown in Table 1. The mean (SD) age of TH increased significantly from 28 (7) years in 1997 to 32 (7) years in 2008 ($p < 0.01$). Similarly, the percentage of married TH increased from 51% in 1997 to 69% in 2008 ($p < 0.001$). Over 95% of TH were found to be literate in all the rounds, while the

remaining 5% were illiterate.

Knowledge and knowledge without misconception

The knowledge level which is defined as any two acceptable way of preventing HIV/AIDS increased from 97% in 1997 to 99.6% in 2008 ($p = 0.003$). However, the level of knowledge without misconception was found to be low. This was about 49% in 1997, which declined steadily till 2006 and increased to 40% in 2008. Similarly, self-risk perception remained same that was 24% in 1997 and declined steadily till 2002 and increased to 23% in 2008.

Exposure to paid and casual sex in the last 12 months

The percentage of TH reported having paid sex during last 12 months is shown in Figure 1. The percentage of TH reported having sex with paid female partners increased from 26.5% in 1997 to 45% in 2008 ($p < 0.01$). The percentage of TH reported having casual sex was 15.4% in 1997, which declined steadily till 2003 and

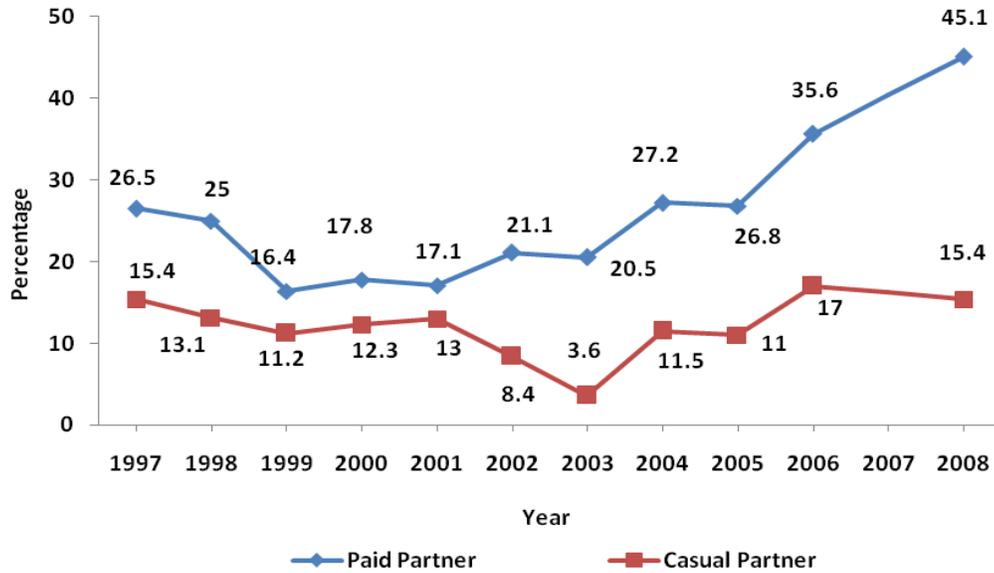


Figure 1. Trends - Sex with paid and casual partners during the last 12 months from 1997 to 2008 (TH).

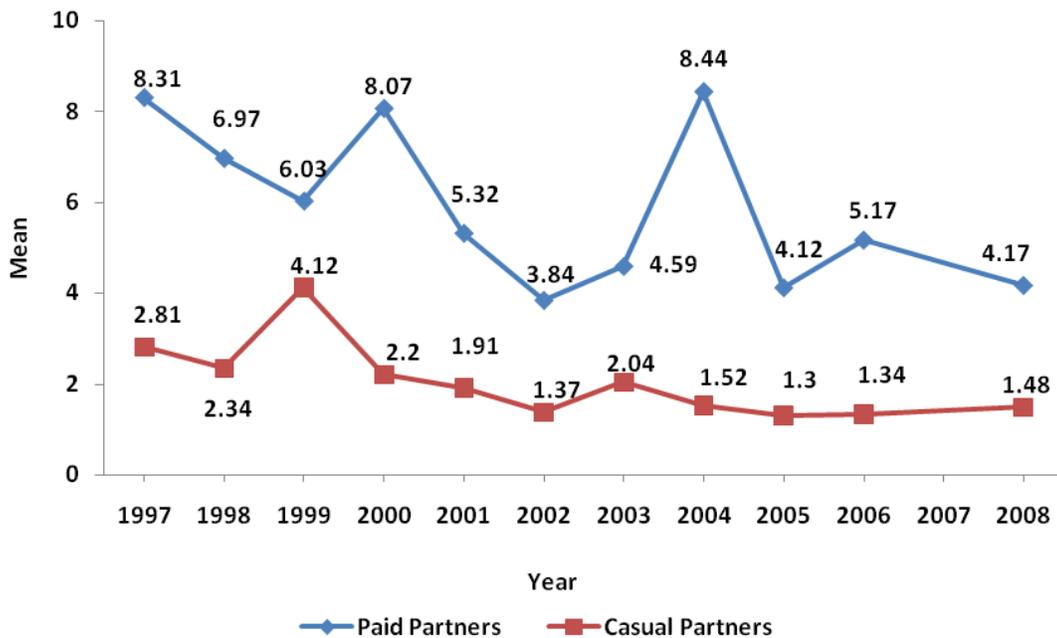


Figure 2. Trends – Mean number of paid and casual partners from 1997 to 2008 (TH).

reached the similar level (15.4%) in 2008. When compared to the earlier period (1997 to 1999), paid sex was reported significantly higher during the later period especially after 2003 onwards ($p < 0.001$). The multivariable analysis revealed that TH who were in the higher age group (>30 years) and married were 1.3 (1.1 to 1.4) and 1.2 (1.1 to 1.4) times significantly more likely to seek paid sex as compared to younger (≤ 30 years)

and unmarried ($p < 0.01$), respectively (Table 3). The TH who had self-risk perception were more likely to have paid sex as compared to others ($p < 0.001$).

The trends in the mean number of paid and casual partners of TH during the last 12 months are shown in Figure 2. The mean number of paid partners decreased from 8.3 (9) partners in 1997 to 4 (3) in 2008 ($p < 0.001$). Similarly, the mean number of casual partners dropped

Table 2. Regression analysis of socio-demographic variables and risk factors by number of paid partners and casual partners.

Variable	Paid partners			Casual partners		
	Regression coefficient	SE	P-value	Regression coefficient	SE	P-value
Year	-0.29	0.04	0.001	-0.16	0.03	0.001
Age (in years)	0.11	0.03	0.001	0.03	0.02	0.116
Marital status	-0.59	0.39	0.136	-0.27	0.23	0.241
Education	-1.94	0.53	0.001	-1.23	0.32	0.001
CCU	-0.17	0.35	0.617	0.80	0.21	0.001
Self-risk perception	-0.82	0.33	0.014	-0.49	0.19	0.011
STD symptoms	0.29	0.36	0.428	-0.03	0.23	0.897

from 2.8 (4) in 1997 to 1.5 (0.5) in 2008 ($p < 0.001$). In total, 50% reduction in the mean number of paid and casual partners was observed in 12 years which is a reduction of one paid partner for every 3 years and one casual partner for every 6 years. The factors associated with the number of paid and casual partners are shown in Table 2. Age and literacy were found to be significantly associated with the mean number of paid partners. TH in the higher age group and non-literate were likely to have more number of paid partners as compared to younger and literate TH ($p < 0.001$). It was also found that TH who had self-risk perception were likely to have more number of paid partners as compared to others ($p < 0.01$). Literate TH were likely to have more number of casual partners as compared to illiterate TH ($p < 0.001$). TH who reported CCU and had self-risk perception were likely to have significantly more number of casual partner as compared to others ($p < 0.001$).

TH who reported having sex with men over the years is shown in Table 1. TH (Panthis¹) who engaged in sex with men increased from 2.3% in 2000 to 3.2% in 2008. The percentage of TH (Kothis²) who let themselves for anal sex declined from 1.4% in 1997 and 1.2% in 2008.

Condom use

The trends in the use of condom at last sex and CCU with paid and casual female partners are shown in Table 1. Use of condom at last paid sex was found among THs to have a significant increase from 66% in 1997 to 95% in 2008 ($p < 0.001$). Though the use of condom with casual partners during last sex was reported to be relatively lower than use of condom with paid partners, it increased from 19% in 1997 to 65% in 2008 ($p < 0.001$). Similarly, CCU with paid partners increased significantly from 45% in 1997 to 84.2% in 2002 and then dropped till 2005 (55.1%). Since 2005, CCU recorded an increase and

reached 85.6% in 2008 ($p < 0.001$) (Figure 3). CCU was significantly higher during 2000 to 2002 and 2006 to 2008 as compared to the earlier period between 1997 to 1999 ($p < 0.001$). CCU with casual partners also increased from 9% in 1997 to 39.8% in 2008 ($p < 0.001$). The multivariable analyses indicated that TH who did not have self-risk perception were 3.9 (2.6 to 5.9) times more likely to have reported CCU ($p < 0.001$) (Table 3).

STI symptom (urethritis) and treatment seeking behaviour

The trends in reported urethritis and treatment seeking behaviour among TH are shown in Figure 4. The prevalence of urethritis recorded around 50% reduction that was from 8.2% in 1997 to 4.1% in 2008 ($p < 0.01$). A significant reduction in the prevalence of urethritis was found during 2003-2005 as compared to the period between 1997 to 1999 ($p < 0.05$). The percentage of TH who sought treatment from qualified medical practitioners was consistently at a higher level and increased from 89% in 1997 to 94% in 2008 ($p = 0.002$). The multivariable analysis indicated that older TH (>30 years) were 1.2 (1.1 to 3.3) times more likely to have urethritis as compared to the younger TH ($p < 0.01$) (Table 3). As expected, TH who consistently use condoms had significantly 40% less risk for urethritis, as compared to others ($p < 0.05$). TH who had self-risk perception were more likely to have urethritis as compared to others ($p < 0.001$).

DISCUSSION

Twelve (12) rounds of extensive cross-sectional surveys of this kind among TH have been a great source of evidence to facilitate decision-making, policy development, program planning and evaluation in HIV/AIDS interventions among TH in Tamil Nadu state. Though, the study was limited to TH along highways who were visiting the state of Tamil Nadu, they represented all the states of India, reflecting the behaviour of TH in general.

The surveys found an increasing trend in the mean age of TH over the years which is in corroboration with a study

¹Panthis are often the clients of kothis. It is akothi name, given to "real men" usually the clients of the Kothis

²Kothi is a self-identified label used by feminized males who have sex with men, and use their feminized behaviours in public spaces to attract "real men" for sex. They are usually sexually penetrated. However, many kothis will also be married with children in a culture of "compulsory heterosexuality"

Table 3. Factors associated with visiting paid female partners during the last 12 months, STI symptoms and CCU.

Variable	Paid sex with female partner during the last 12 months			STI symptom (Urethritis)			CCU paid partner		
	OR	95% CI	P-value	OR	95% CI	P-value	OR	95% CI	P-value
Age (in years)									0.513
≤ 30	1.0			1.0			1.0		
>30	1.3	(1.1 – 1.4)	0.011	1.2	(1.1 – 3.3)	0.018	1.3	0.7 – 2.0	
Marital status									
Unmarried	1.0			1.0			1.0		
Married	1.2	(1.1 – 1.4)	0.002	1.4	(0.8 – 2.5)	0.172	0.7	(0.4 – 1.2)	0.235
Education		(0.8 – 1.2)	0.941		(0.6 – 2.1)	0.779		(0.3 – 1.4)	0.337
Illiterate	1.0			1.1			0.7		
Literate	1.0			1.0			1.0		
Self-risk perception									
Yes	1.0			1.0			1.0		
No	0.1	(0.1 – 0.2)	0.000	0.4	(0.3 – 0.6)	0.000	3.9	(2.6 – 5.9)	0.000
Knowledge without misconception									
Yes	1.0			1.0			1.0		
No	0.9	(0.8 – 1.0)	0.064	1.5	(0.9 – 2.4)	0.103	1.2	(0.8 – 2.0)	0.351
Year									
1997- 1999	1.0			1.0			1.0		
2000 - 2002	0.9	(0.8 – 1.1)	0.300	1.5	(0.9 – 2.6)	0.141	4.5	(2.5 – 8.0)	0.000
2003 - 2005	1.3	(1.1 – 1.5)	0.001	0.5	(0.2 – 0.9)	0.024	1.2	(0.6 – 2.3)	0.562
2006 & 2008	2.5	(2.1 – 2.9)	0.000	0.7	(0.4 – 1.3)	0.271	3.8	(2.0 – 7.0)	0.000
No. of paid partner	-	-	-						
1-5				1.0			1.0		
6-10				1.1	(0.7 – 1.8)	0.723	0.9	(0.5 – 1.5)	0.671
11 and above				0.9	(0.5 – 1.7)	0.819	1.5	(0.7 – 2.8)	0.259
No. of casual partner	-	-	-						
1				1.0			1.0		
2				0.9	(0.5 – 1.4)	0.514	0.6	(0.4 – 1.0)	0.073
3 and above				0.8	(0.5 – 1.5)	0.485	1.2	(0.6 – 2.1)	0.632

Table 3. Contd.

CCU paid partner									
Every time	-	-	-	0.6	(0.4 – 1.0)	0.056	-	-	-
Not every time				1.0					
CCU casual									
Every time	-	-	-	0.9	(0.5 – 1.4)	0.557	-	-	-
Not every time				1.0					

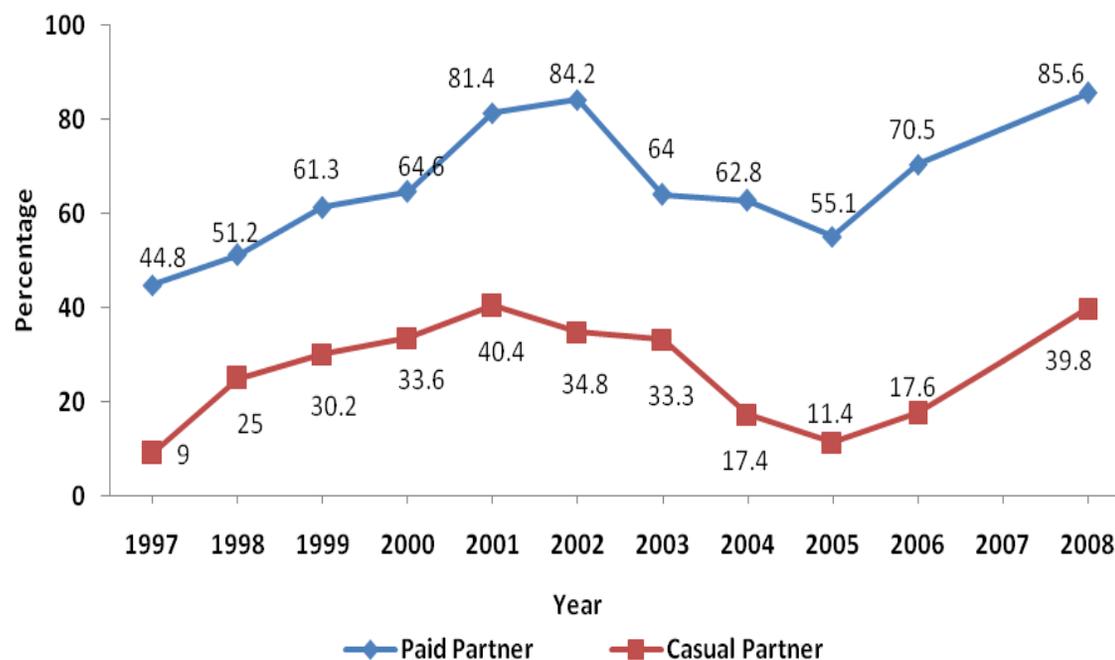


Figure 3. Trends – Consistent condom usage with paid and casual partners from 1997 to 2008 (TH).

in India (Pandey et al., 2011). The mean (SD) age of 32(7) years in 2008 is similar to the mean age reported by few other studies carried out in North India (Baishali et al., 2007; Pandey et al., 2008)

and a recent study conducted in India indicated a mean age of 32.52 years (Singh, 2012). The percentage of married TH in 2008 was 69% that increased from 51% in 1997.

Other studies indicated a slightly higher proportion that were 78% (Singh, 2012) and 74.3% (Pandey et al., 2011). The proportion of non-literacy among TH was in the range of 5 to 11%

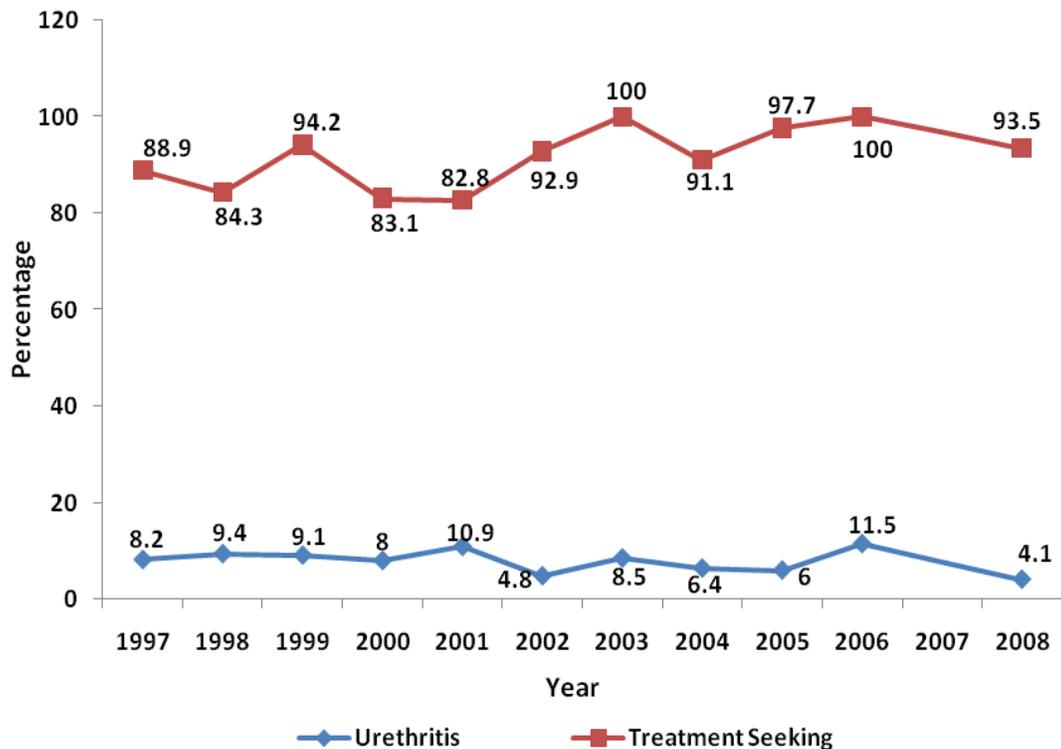


Figure 4. Trends – Urethritis in the last 12 months and treatment seeking from 1997 to 2008 (TH).

in the past 12 years which is in line with a study by Pandey et al. (2008) that reported 13.5% TH as non-literate. On the contrary, another study in 2007 reported 28% illiteracy among transport workers (Baishali et al., 2007). The increasing age and the proportion of married TH indicate the possibility that the same cohorts of TH have been intervened over the years. It also indicates the possibility of TH staying in the same profession for a long time unlike earlier due to the increasing wages in the industry. The surveys found an increasing trend in TH having sex with paid a female partner which was around 45% in 2008. Few other studies also reported a higher percentage of TH reported having paid sex. For instance, Chaturvedi et al. (2006) reported 57% and Manjunath et al. (2002) reported 66% of TH having paid sex with female partners. In contrast, a study by Pandey et al. (2011) indicated a declining trend that was from 31% in 2007 to 24.3% in the year 2010. The reported casual sex with non-paid female partners was found to be 15.4% in 2008, whereas other studies in India reported 21% (Pandey et al., 2008) and 19.4% in 2010 (Pandey et al., 2011).

The surveys also found that married and older TH (>30 years) were more likely to have paid sex and engage higher number of partners in the last 12 months. A study carried out in Pune indicates that older truckers were relatively more involved in commercial sex (Chaturvedi et al., 2006). Similarly, married TH were more likely to have paid sex which is corroborating with other study findings

(Pandey et al., 2008). These findings justify the fact that TH are not only vulnerable for STI and HIV but also a potential bridge population to spread the infection to their spouses and regular partners. The higher likelihood of paid sex among older and married TH could be due to lack of exposure to interventions, low fear of acquiring infections, inadequate time spent with families, household situation such as joint family and having grown-up children. Higher frequency of paid sex could be addressed through CCU. However, qualitative evidences are needed to understand the possibility of socially desirable response of affirmative answer from TH to CCU. The reduction in the mean number of paid and casual female partners engaged by TH are positive trends. The increasing trend in paid sex and decreasing number of paid partners may indicate that these TH were seeking sex from regular paid female partners. This also indicates that the same group of sex workers might be involved in sex work in the same trucking spots for a long time where the TH regularly seek sex. These findings emphasize the need to focus the known trucking spots and target the FSW present in these spots. The analysis also revealed that non-literate TH had significantly higher number of paid partners which is in agreement with many studies (Bansal, 1992; Baishali et al., 2007; Pandey et al., 2008). This suggest the need for appropriate communication channels to provide interventions among non-literate TH (Bansal, 1992; Baishali et al., 2007; Pandey et al., 2008). The study also found that those who had self-

risk perception were more likely to engage in paid sex and more paid and casual partners. Though it is difficult to prove the causal association between low risk perception and risk behaviour, this trend could be explained that the TH were engaging in risky behaviour that could have made them to perceive that they were at risk. Essentially, the increasing trends in paid sex and a higher proportion of casual sex suggest the need for more focussed and intensive HIV/AIDS interventions among the TH.

Though there is an increase in condom use at last sex during paid and casual sex, CCU with paid and casual sex had a decline during 2002 to 2005 and then increased to 86% by 2008. A study by Pandey et al. (2008) reported 70% CCU among Truckers. Other studies by Chaturvedi et al. (2006) and Manjunath et al. (2002) reported 57 and 60.5%, respectively. It was also revealed that TH who did not have self-risk perception were more likely to report CCU. But, the study by Pandey et al. (2008) did not indicate any association between self-risk perception and CCU, but age at first paid sex and HIV testing were associated with the CCU.

According to the surveys, nearly 50% reduction in the prevalence of urethritis was found from 1997 to 2008 (8.2 to 4.1%). Treatment seeking behaviour had been consistently in the range of 80 to 100%. Factors such as age (>30 years), self-risk perception and CCU were significantly associated with urethritis which were reported by another study as well (Pandey et al., 2008). Aged TH were more likely to have urethritis and they were more likely to have paid sex and higher number of partners. This shows the association between risky behaviour and the presence of urethritis among TH. The declining trend in urethritis and the higher percentage of treatment seeking could be due to the state wide intensive training program for allopathic doctors in syndromic management and the huge awareness campaigns related to syndromic management which would have facilitated early seeking of care and appropriate treatment by the providers.

Though, this is the only study in India which observed the behaviours of TH over 12 years, the observations were from cross-sectional surveys. Therefore, the finding may not establish the cause and effect relationship. Some responses such as condom use may have been biased due to socially desirable responses. In addition, we could not extensively compare our results with other studies as there is no long-term risk behaviour studies reported.

In summary, the 12 rounds of BSS's indicate an increasing trend in the percentage of TH having sex with paid female partners. Though it is alarming, other factors such as decreasing mean number of paid partners, increase in condom use at last sex, CCU and treatment seeking behaviour are encouraging trends in general. On the other hand, lower levels of knowledge without misconception, self-risk perception and the U-shaped and zigzag trends in CCU with paid and casual partners are

prime concerns that underscore the need for intensive and continuous interventions among TH along the highways. As TH are potential bridge population for the transmission of HIV and STI to the general population through their spouses, casual and regular partners, there is a need for intensive and continuous interventions among them to address the gaps and reverse the epidemic among TH, other high risk groups and general population.

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