Original Article



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Sexual and Drug Use Risk Behaviors of Internal Long Distance Truck Drivers in Iran

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Abstract

Background: Long Distance Truck Drivers (LDTDs) and their sexual health risk behaviors have been associated with greater prevalence of sexually transmitted Infections (STIs), HIV and hepatitis virus transmission. However, there is no information about Iranian LDTDs' high-risk behaviors. The aim of this investigation was to estimate the prevalence of high-risk behaviors in Iranian LDTDs.

Methods: This cross-sectional study was conducted in Jun 2014 with LDTDs from Tehran Province of Iran. LDTDs were recruited via convenience sampling and given a 43-item reliable and valid questionnaire to assess sexual health risk behaviors and demographic and background characteristics of study participants.

Results: A total of 349 LDTDs with the mean age of 36.91 yr (range, 19–65 yr) participated in the study. The average duration of staying away from home for participants was 5 d (SD= \pm 1). Majority of the LDTDs were married (82.2 %) and had more than 5 yr (inclusive) of formal education (95.7%). Younger LDTDs reported more condom use with their partners (r=-0.170, P \leq 0.001), more extramarital sexual contacts (r=-0.157, P \leq 0.001), more pay for sex (r=-0.110, P \leq 0.005) and condom use in their extramarital sex contacts (including with sex workers) (r=-0.176, P \leq 0.001).

Conclusion: Iranian LDTDs have specific risk factors for unhealthy sexual behaviors. Prevention efforts must emphasize on specific high-risk groups.

Keywords: Long distance, Truck driver, High-risk behavior

Introduction

HIV is a global pandemic that continues to affect millions of people worldwide. In 2013, more than 30 million worldwide were living with HIV/AIDS (1). The vast majority of people living with HIV are from low and middle-income countries (2). While more than 24000 HIV-infected cases have been identified in Iran, current estimates from UNAIDS claim more than 90000 HIV-positive people are living with HIV in Iran (3). Although injection drug use (IDU) has been primarily described as the main route of transmission , high risk heterosexual contacts have also been speculated as the second most prevalent way of HIV acquisition (3, 4). In order to effectively manage and plan prevention and control of HIV, it is crucial to identify high-risk groups.

Several studies have shown that Long Distance Truck Drivers (LDTDs) are at high risk of sexually transmitted Infections (STIs), HIV, and hepatitis virus transmission through risky sexual behaviors (5-11). Visiting Commercial Sex Workers (CSCs) or unpaid causal sexual partners, inconsistent condom use, and illicit drug use including intravenous drug use, by LDTDs have been mentioned as their most influential high-risk behaviors (12-14). LDTDs can act as a potential bridge for HIV and other STIs to their female partners (12-14). Risk factors such as working long hours sleep deprivation, inadequate rest and relaxation, being away from home and support systems, and driving in hazardous conditions place the LDTDs at an increased risk for possible use or abuse of alcohol and drugs (15).

In a study among international truck drivers in Azerbaijan, IDU was one of the strongest predictors of HIV infection (16). As it relates to sexual risk behaviors, according to a study of 1175 Brazilian truck drivers, 95% of truckers reported having a principal partner and 46% had any non-regular partner in the last six months, including 32% who reported commercial partnerships and 24% who reported occasional partnerships. Only 9% of truckers reported consistent condom use during vaginal sex with principal partners and 68% reported consistent use with occasional partners (17). Similarly, in Nigeria, the majority (55.3%) of truckers had more than one sexual partner (18). Consistent with such high rates of risky sexual behavior in truckers, a study of 283 Indian truck drivers found that more than 1 in 20 had had more than 5 sexual partners and the majority (57.24%) of participants had exposure to CSWs out of which only 6.8% had used condom every time while visiting CSWs (19).

More than half a million active public drivers are registered in domestic goods transportation sector in Iran. These individuals embark on more than 26 million trips with average distance of 497 km in each trip, every year (20). Jabbari et al. took rapid HIV tests from 400 consecutive LDTDs in Bazargan City, north-west of Iran and found no HIV positive tests (21). However, there was no high risk behavior assessment in this study. To our knowledge, no other study has investigated Iranian LDTDs' high risk behaviors. Several studies have been conducted in Iran about HIV and high risk groups such as IDUs, sex workers, and homeless people, but little is known about Iranian LDTDs high risk behaviors that may increase the likelihood of having HIV (22-24).

The purpose of this investigation was to estimate the prevalence of high-risk behaviors (extramarital sexual contacts, visiting CSCs and/or unpaid causal sexual partners, without condom and/or IDU) in Iranian LDTDs.

Methods

Study design and participants

We used a cross sectional study design and data was collected for a week in Jun 2014. LDTDs were eligible for the study if they spent at least 3 days away from home in a week because of their working travels. They were selected via a convenience sampling. Demographic and behavioral information were collected by same-sex interviewer using semi-structured questionnaire with eligible LDTDs in Tehran Province trucks parking lot located in south of Tehran where about 3800 LDTDs enter every day.

Ethics

Approval of the study was obtained from the Iranian Scientific Association of Social Work (ISASW) ethical review committee (case number: 93/P/429). Participation in the research was voluntary. All participants were informed about the research project by presenting an oral informed consent. Researchers confirmed that participants understood their rights by a member-check. All data were recorded in an anonymous manner, using numerically coded questionnaires. In order to prevent possible stigmatization, the research team never asked questions in groups of LDTDs, even if their colleagues were familiar with the participants' background at the time.

Measures

A 43-item valid and reliable questionnaire collected information on demographics including age, education, marital status and province of residence (developed (Tehran, Alborz, Isfahan, Mazandaran, Yazd, Khorasan Razavi and Fars), developing (Koozestan, Semnan, Gilan, Markazi, Kerman, Azarbaijan Sharghi, Chaharmahal-o_Bakhtiari, Bushehr, Zanjan, Qazvin, Golestan, Kermanshah, Hamedan and Khorasan Jonoobi), less developed (Ilam, Lorestan, Azarbaijan Gharbi, Ardebil, Qom and Kohkilove va Boverahmad) and under developed (Hormozgan, Kordestan, Khorasan Shomali and Sistan va Baloochestan), days away from home in week because of working travels, female sexual partners (wife and extramarital sexual relations (including paid and non-paid partners) and number of sexual contacts in last month), male sexual partners and number of homosexual contacts in last month, know homosexual colleagues, number of condom use during sexual contacts in last month, drug abuse background (including drug abuse duration, types of abused drugs, intravenous drug injection, needle sharing, imprisonment related to drug abuse or drug dealing, and treatment).

Data analysis

Data were analyzed using SPSS 22 (Chigoe, IL, USA). In the primary approach, we conducted descriptive analyses of demographic and background characteristics of study participants. In the secondary approach, we conducted logistic regression analyses to assess the odds of having a risky sexual behavior (i.e. not using a condom in extramarital relationships). Separate multiple logistic regression models that controlled for sociodemographic factors were also used to assess the likelihood of the risk behavior that served as the main outcome. Statistical significance was established as P < 0.05.

Results

General characteristics

A total of 349 LDTDs with the mean age of 36.91 yr (range, 19–65 yr) participated in the study. The average duration of staying away from home was 5 d (SD= \pm 1). The majority of LDTDs were married (82.2 %), whereas 17.8% of them were single. Nearly three forth of LDTDs had more than 5 yr of successful formal education (range, illiterate (0 year) – master's degree (18 years). More than 45.2% of LDTDs had extramarital sexual encounters last month. Data shows that opium is the most com-

monly used drug among LDTD's substance abusers (33%) and no IDU reported by LDTDs (Table 1).

Prevalence of high-risk behaviors

LDTDs reported no high-risk drug abuse behavior; almost all participants with drug abuse background reported smoking opium and no one abused substances like stimulants. Besides, no intravenous drug injection was reported.

Younger LDTDs reported more condom use with their partners (r=-0.170, $P \le 0.001$), more extramarital sexual contacts (r=-0.157, $P \le 0.001$), more pay for sex (r=-0.110, $P \le 0.005$) and condom use in their extramarital sex contacts (including with sex workers) (r=-0.176, $P \le 0.001$). LDTDs with higher education knew more homosexuals among their colleagues (r=0.108, $P \le 0.005$). LDTDs who reported more contacts with sex workers were more likely to use condom (r=0.566, $P \le 0.001$). LDTDs who spent more days away from home were more likely not to use condom (r=-0.141, $P \le 0.001$).

A difference was observed in condom use during sex with regular partners and during casual sex. Out of 287 married LDTDs, 224 (78%) of them did not use condom with their regular partners last month, while most of participants who reported contacts with CSWs (123 (85.4%)) used condom during casual sex last month.

Logistic regression analysis for high-risk behavior

A binomial multivariate logistic regression has been conducted to determine the importance of some LDTDs' attributes in the probability of not using condom during an extramarital relation as the highrisk behavior among the 144 LDTD samples who had extramarital relation last month (Table 2). Multivariate logistic regression indicated that compared to individuals who do not know any homosexual colleagues, the odds of reporting not using condom during extramarital sex was high for individuals who have at least one homosexual colleague(OR=3.911, 95% CI=1.502-10.183. *P*=0.0063).

Table 1: Demographic profile of study participants

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Less Developed 63 (18.1)	Less Developed	63 (18 1)	
Under Developed 29 (8.3)	Under Developed	29 (8.3)	

* Someone whom they are not married to but has a permanent relationship with //** 31 provinces of Iran ranked as Developed, Developing, Less Developed and Under Developed based on economic, education, health and socio-cultural indices.

Based on logistic regression results the probability of not using condom in an extramarital sex is low (OR=0.506, 95%CI= (0.187,1.374), P=0.0354) for LDTDs whose development degree of hometown is developing. The odds for the high-risk behavior was low for the LDTDs at the age range of 33-40 (OR=0.613, 95% CI=0.172- 2.182, P=0.0622). Education, marital status, spending money for drug, substance abuse duration and number of days that LDTDs stay away from home did not have significant impact on committing the highrisk behavior among individuals who had extramarital sex last month.

Table 2: Logistic regression analysis for Iran LDTDs predicting extramarital relation without condom as the high
risk behaviour

Variables	Odds ratio(95%CI)	Adjusted. Odds	P(Wald's
		ratio(95%CI)	test)
Age (yr)			
0-32(ref)	1.00		
33-40	0.613 (0.172,2.182)	0.192 (0.034,1.088)	0.0622
41-65	1.621 (0.568,4.624)	0.821 (0.21,3.211)	0.7767
Education(years)			
0-10(ref)	1.00		
11-18	0.814 (0.32,2.07)	0.716 (0.214,2.403)	0.589
LDTD Paid Money for Drug Last Month			
No(ref)	1.00		
Yes	5.4 (1.949,14.962)	3.013 (0.567,16.014)	0.195
Marital Status			
Married (ref)	1.00		
Single(Never Married, Divorced, Aban-	1.377 (0.527,3.596)	1.553 (0.469,5.146)	0.4716
doned, Widow)			
Degree of LDTD's Hometown Development			
Developed(ref)	1.00		
Developing	0.506 (0.187,1.374)	0.271 (0.08,0.915)	0.0354*
Less Developed	0.338 (0.068,1.668)	0.235 (0.039,1.426)	0.1154
Under Developed	0 (0,Inf)	0 (0,Inf)	0.9936
Days Away From Home			
3(ref)	1.00		
4-5	6925899.683 (0,Inf)	43155051.812 (0,Inf)	0.9916
6-7	11912547.454 (0,Inf)	42147157.485 (0,Inf)	0.9917
Drug of Abuse			
No(ref)	1.00		
Yes	2.982 (1.159,7.674)	2.392 (0.464,12.328)	0.2974
LDTD Knows Homosexual Colleagues			
No(ref)	1.00		
Yes	3.911 (1.502,10.183)	6.013 (1.658,21.805)	0.0063**

No. of observations = 144 individuals who had extramarital relation last month Significant *

Discussion

Global studies have supported involving truck drivers with high-risk behaviors in prevention efforts (5-14). Despite worrisome trends of the growing methamphetamine crisis in Iran the drug abuse pattern (opium as the main substance and no injection drug use) among LDTDs is completely different (25-27). No high-risk drug abuse among Iranian LDTDs reported in this study. Although more than 29.8% of participants reported sexual encounters with CSWs in the last month, this study illustrated lesser prevalence of high-risk sexual behaviors among Iranian LDTDs than other countries like India or African countries (7, 8, 10, 11, 17-19).

Limitations

Some significant limitations of this study can be pointed out. Our investigation was an initial attempt to describe LDTDs high-risk behaviors. This study is limited by the non-probability sample and its confinement to Tehran province trucks parking lot. The information sought in this study had to be obtained through self-reported behaviors. Some LDTDs may not have remembered events correctly or may have provided socially desirable responses to some items, both being potential threats to the internal validity of the findings. This study used a cross-sectional design. Thus, no cause and effect conclusions can be drawn from these results.

Conclusion

HIV and STI prevention program among LDTDs needs to focus more on those who are 33-40 yr old and live in provinces other than developing provinces. More efforts (e.g., counseling and awareness raising among truckers about being at risk of acquiring STI and HIV, etc.) are required to make truckers motivated and able to use condom each time they have sex with non-regular partners. Married drivers with high risk behavior background should be motivated to test for HIV and STI infections and be aware that how to protect their spouses.

Recommendations

• Recommendations for practice

Through this study finding we are able to narrow the number of LDTDs who need to be informed and trained about high risk behaviors. In comparison to dealing with an enormous number of LDTDs, controlling and monitoring of smaller group (i.e. LDTDs with extramarital sex contacts) seems theoretically and economically feasible. Our findings suggest a need for interventions that address LDTDs' condom use barriers. Education programs that target LDTDs may be an effective way to decrease high-risk behaviors and threats of HIV infection.

• Recommendations for Research

This study was conducted with LDTDs in Tehran province trucks parking lot and needs to be replicated on a larger scale, in other provinces truck parking lots. The topics covered by our study were not all inclusive. Future studies could focus on more in-depth and comprehensive assessment of LDTDs high-risk behaviors. Lastly, as more than 78% of married LDTDs did not use condom during sex with their regular partners, HIV and STI prevalence among LDTDs' regular partners could be an important issue to study.

Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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