



HIV/AIDS Knowledge, Attitudes and Practices among Truck Drivers in Burkina Faso.

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Abstract

Objective: Human immunodeficiency virus (HIV) /acquired immune deficiency syndrome (AIDS) affect all levels of society and drivers are considered as vectors of HIV transmission because of the mobility of their work. The aim of this study was to assess struck drivers' knowledge, attitudes and practices on HIV and AIDS in Burkina Faso.

Methods: Quantitative method and cross-sectional survey using questionnaire with Cronbach's alpha 0.76 were used in this study. SPSS, version 18.0 was used for analysis. P-values ≤ 0.05 were considered statistically significant.

Results: 150 truck drivers participated in the study with a mean age of 38.71 years (SD=8.87), and ranged from 25 to 68 years old. It was observed that misconceptions about HIV transmission are quite prevalent among truck drivers. About 61 (40.7%) felt that AIDS can be transmitted by sharing meals, 35 (23.3%) stated that it can be spread by mosquito bite and 65 (43.3%) were of the opinion that AIDS can be transmitted by using same toilet and cloths. High-risk behavior was established in the study. 78% have other sexual partners besides their wives and 34% often visit sex workers in which 26 % had unprotected sex with sex workers. Alcohol seems to have a big role in their sexual behavior; thus 22 % of truck drivers declare drink alcohol before sex. There were significant association in demographic factors and knowledge, attitude and practice.

Conclusion: The study findings underline the negative risk behaviors of truck drivers. Safe sex and use of condom have to be promoted through education program among truck drivers in Burkina Faso.

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Introduction

Human immunodeficiency virus (HIV) responsible of acquired immune deficiency syndrome (AIDS) is regarded as the leading cause of death in the world [1]. The spread of HIV is affecting all the countries and communities. In Burkina Faso, HIV/AIDS epidemic has emerged as a serious public health problem since it appears. Thus the Government of Burkina Faso has made the fight against HIV/AIDS a key challenge for health policy development and sustainable strategies since 2000 years [2]. Truck drivers, particularly long distance truck drivers, are more vulnerable to HIV infection, because they travel a lot (day and night), often out of homes for months [3]. The present study focused on truck drivers who are considered to be vulnerable to HIV transmission worldwide. This study aimed to assess knowledge about HIV/AIDS, high-risk sexual attitudes and behavior among truck drivers in Burkina Faso.

Significance of study

In 2011, more than 34 million people living with HIV worldwide. It was estimated that 2.5 million people became newly infected and two million people died of AIDS. Sub-Saharan Africa is home to more than 10% of the world's population and roughly 69 % of these people living with HIV [4]. HIV/AIDS affect all levels of society and drivers are considered as vectors of HIV transmission because of the mobility of their work.

The current situation facing Burkina Faso in terms of infection with human immune-deficiency virus (HIV) not absolutely seems to be alarming but should be worrying due to the poverty of the country and the shortage of medication. In 2012 the rate of HIV infection was 1.2% among population in Burkina Faso [4]. The seroprevalence of truck drivers remains worrying in relation to the general population. In 2011 the seroprevalence of truckers in Bobo-Dioulasso was at 27.03 % and 22.9 % in Ouagadougou according to Union of Burkina Truckers Fighting against AIDS

(UBTFA) reports [5] Due to the nature of transportation work, truckers are in higher risk of contracting and spreading HIV/AIDS. Truck drivers are considered channels of transmission of HIV/AIDS.

Purpose of study

The present study was aimed to evaluate truck driver's knowledge, attitudes, and practices about HIV/AIDS in Burkina Faso. This study should help to better target campaigns against HIV by enabling truck drivers to refine, taking into account their concerns.

Methodology

Quantitative method was used to assess truck driver's knowledge, attitudes and practices of HIV/AIDS. A cross-sectional survey was conducted to collect data. The study was carried out in two cities, Ouagadougou and Bobo Dioulasso, the most important cities in Burkina Faso. There are offices of transport workers' unions, the major associations of transporters (UBTFA) and structures related to their activities, in these two cities. Sample was drawn from transportation workers in Burkina Faso. The sample size estimation of this study was determined by G-Power version software 3.0.10 using correlation and regression tests [6]. An alpha level set at .05 (two tailed), power at 0.8, and a medium effect size of 0.15 was used with 11 predictors factors [7]. The target population was truck drivers aged more than 21 years old and 150 truck drivers were retained in this study.

Face to face interviews were conducted in French. All research instruments were translated from English to French and blind back-translation was done by three experts who are lecturers in university and speak both languages fluently. The data collections were made on the basis of our study sample but also with truck driver's agreement. The questionnaire was submitted in an interview format to truck drivers after explaining the objectives of the survey. During survey

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the cases of refusal to participate were not included in the compilation of data. At the end of each interview the researcher revised the questionnaire to ensure that all items were completed. The data were then compiled by the investigator for results analysis. Interviews were conducted from July to September 2011 in Burkina Faso following research steps.

Data were entered in Excel version 2007 and then exported to the Statistical Package for Social Scientist (SPSS) version 18 for cleaning and analyzing. The data analysis included: a descriptive statistics was used to establish the frequency, range, mean, and standard deviation of demographic factors and clinical characteristics. Frequency, range, mean, and standard deviation were used for continuous variables. Percentage and frequency were used for categorical variables. Pearson's Correlation Coefficient and multiple regression analysis were used to explain relationship of independent variables to the outcome variable.

Instruments

The survey instrument explored truck drivers' HIV/AIDS knowledge, attitude and practice was adapted from Dr Baishali BAL's questionnaire [8] which comprised four parts. Part A is related to subject's sociodemographic background including age, ethnicity, religion, marital status, family type, education level, and incomes. Part B exams truck drivers' knowledge regarding HIV/AIDS using a 19 items questionnaire. Questions include knowledge on ways of infection, myths, disease detection and progression, treatment, and prevention of HIV/AIDS. Part C explores truck drivers' attitude towards HIV/AIDS positive person using six (6) items. Part D is referring to truck driver's sexual behavior or practice related to HIV/AIDS transmission using a 13 item questionnaire. The original English questionnaire was translated into French and then back translated into English by three experts who speak both of languages fluently.

Content validity was established by expert validity. The validity of questionnaire was approved by three experts

with their known experience with HIV research. These experts are professors' with PhD degree at University of Ouagadougou. They rated the content clarity, relevance, and simplicity of each item using a 4 point rating scale from 1 (not clear, irrelevant, and not simple) to 4 (very clear, very relevant, and very simple). Content validity index (CVI) was calculated to present the score of validity. The average CVI among three experts was 0.94. Items met clarity, relevance, criterion if 70% of experts rated the item as clear and relevant [9]. Experts indicated that for a study instrument an average agreement of 70% (0.7) is "necessary" for agreement, 80% (0.8) for "adequate" agreement, and 90% (0.9) for "good" agreement [10,11]. Thus, this questionnaire is considered with good validity.

A pilot study with 15 Burkina Faso truck drivers was conducted in Ouagadougou and Bobo Dioulasso to determine reliability of this questionnaire. The purpose of pilot study was to exam the questionnaire administration technique and the adequacy of the question items. The results of this pilot study were analyzed by SPSS version 18 to determining the Cronbach's alpha. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. However, there is actually no lower limit to the coefficient. George and Mallery [12] provide the following rules of thumb: a Cronbach's alpha greater than 0.9 is considered excellent, a value greater than 0.8 is considered good, a value greater than 0.7 is considered acceptable, a value greater than 0.6 is considered poor, and while a value less than 0.5 is considered unacceptable. The average Cronbach's alpha was 0.76 and was considered acceptable for this study.

Ethical consideration

Permission to conduct this study was approved by the Institutional Review Board of National Taipei University of Nursing and Health Sciences and Burkina Faso authorities. Only truck drivers who agreed and consent to participate were included in this study. High confidentiality was observed during filling questionnaire.

Regarding truck drivers data confidentiality, the questionnaire was anonymous, each questionnaire was marked by a code and identities were kept by the investigator alone. The identities were kept on a stiff safety and only the investigator has access. The data processing was done with the codes as identification (Example: 001 or 002).

Results
Truck drivers’ demographic characteristics

Truck drivers’ demographic characteristics were analyzed with a descriptive analysis. A 150 truck drivers were retained in this study.

Truck drivers’ knowledge, attitude, and practice of HIV/AIDS

Knowledge, attitude and practice related to HIV/AIDS among truck drivers.

Truck drivers’ knowledge, attitudes and practices related to HIV/AIDS were assessed by the descriptive method showing their level of responses. Mean score of knowledge, attitudes and practices related to HIV/AIDS among truck drivers were calculated for better evaluation. Truckers knowledge score ranged from 11 to 19 with a mean of 16.28 (SD = 2.19). Truck drivers have in general good knowledge related to HIV/AIDS (see table 2). The score of attitudes ranged from 0 to 6, with a mean of 4.18 (SD = 1.61). Truck drivers’ demonstrated relatively acceptable HIV/AIDS attitudes (see table 3). In practice of HIV/AIDS, the minimum score was 2 and the maximum score 13 with a mean 8 (SD = 1.98). The truck drivers showed a relatively acceptable HIV/AIDS practice.

Misconceptions about HIV Transmission.

Study findings show also some misconceptions related to HIV transmission among Burkina Faso truck drivers. It was observed that misconceptions about HIV transmission are quite prevalent among truck drivers. About 89 (59.3%) felt that AIDS can be transmitted by sharing meals, 35 (23.3%) stated that it can be spread by mosquito bite and 85 (56.73%) were

Table 1: Socio demographic characteristics of study sample (N=150)

Variables	Range	Mean (SD)	Numbers (%)
Age	25-68	38.71 (8.87)	
Religion			
Christian			62 (41.3)
Muslim			71 (47.3)
Others			17 (11.4)
Ethnicity			
Mossi			71 (47.3)
Bobo			40 (26.7)
Others			39 (26.0)
Education			
Illiterate			51 (34.0)
Primary			73 (48.7)
Secondary			26 (17.3)
Marital status			
Married			111 (74.0)
Single			39 (26.0)
Family Type			
Monogamy			96 (64.0)
Polygamy			15 (10.0)
Others			39 (26.0)
Monthly Income (Cfa)			
Low income(≤50 000)			83 (55.3)
Medium income (≤100000)			52 (34.7)
Good income(> 100 000)			15

of the opinion that AIDS can be spread by using same toilet and cloths. (See table 2)

Table 2 Misconceptions about HIV transmission among truck drivers (N=150)

Items	Yes Number (%)	No Number (%)
Sharing meal	89(59.3)	61(40.7)
Mosquito bite	35 (23.3)	115(76.7)
Sharing toilet	85(56.7)	65(43.3)
Sharing cloths	85(56.7)	65(43.3)

Risk sexual behavior and condom use.

In this study, 53% (N = 80) of 150 truck drivers think that it is unsafe to have sex without condoms, while 46.7% would like to have sex without a condom. The majority of truck drivers (78%, N = 117) have other sexual partners besides their wives. About 34% (N = 51) often visit sex workers and 26 % (N = 39) had unprotected sex with sex workers. In fact, only 33.3% (N = 50) truck drivers used condoms and 66.7 % (N = 100) do not use condoms when having sex. Regarding the consumption of alcohol, 22 % (N = 33) of truck drivers drank alcohol before sex. Cues to action might be focus on education regarding risk behavior related to HIV/AIDS among truck drivers in Burkina Faso. (See table 3).

Relationships among socio-demographic factors, knowledge, attitude, and practices related to HIV/AIDS.

Findings of Pearson correlation results revealed that practice related to HIV/AIDS is positively correlated with age (r = 0.215, p < 0.01). However, no significant correlation existed between age and knowledge and attitude related to HIV/AIDS. The statistical result from t test of knowledge, attitude and practice between married and single groups show that there is no difference between these two groups. (See table 4)

The analysis of one way ANOVA revealed statistical significance between demographic characteristics and knowledge, attitude, practice related to HIV/AIDS. One way ANOVA test revealed that education, monthly income and single trip stay were statistically

significant with knowledge. The results showed that there were a significant difference in knowledge related to HIV/AIDS and education level (p = 0.002). There was also significance difference in knowledge and monthly income (p < 0.001). There was significance difference (p < 0.001) between knowledge and single trip stay.

One way ANOVA test revealed also that single trip stay was significant with attitude (p = 0.034). Findings of One way ANOVA results showed that there was a significant difference in practice of HIV/AIDS and education level (p = 0.001). There was also significance difference in practice and monthly income (p < 0.001). One way ANOVA analyze results show difference in knowledge and single trip stay; there was significance difference (p = 0.005).

Multiple regression tests were used to see among variables, which one can predict the practice

Table 3 Risky sexual behaviors of study sample (N=150)

Items	Yes Number	No Num-
Would you like to have sex without con-	70	80
Do you have sex partner other than	117	33(22%)
Have you ever visited sex workers within	51(34%)	99(66%)
Do you have often unsafe sex with sex	39(26%)	111
Do you use condom during sex?	50	100
Did you use condom consistently during	57(38%)	93(62%)
If yes, then did you carry condom with	38	112
Do you take alcohol before sex?	33(22%)	117

related to HIV/AIDS among truck drivers in Burkina Faso. In performing this test, education ($p = 0.016$), knowledge ($p = 0.041$), and single trip ($p = 0.049$), three independent variables were correlated with practice related to HIV/AIDS among truck drivers in Burkina Faso. The selection of these three variables gave an R square 0.161 meaning that these three variables modify 16.1% of practice related to HIV/AIDS among truck drivers. (See table 5).

Discussion

In this study the mean age of trucks drivers was 38.71 years ($SD = 8.87$), ranged from 25 to 68 years old and all of truck drivers in Burkina Faso are

Table 4 Pearson correlation score between age and outcomes (N=150)

Variables	Age	r	p
Knowledge		.117	.154
Attitude		.112	.173
Practice		.215*	.008

NB: *Correlation is significant at the 0.01 (2-tailed).

male. This figure was similar with Ramjee's et al., [13] study in South Africa, in which the mean age of the truck drivers was 37 (ranged 18-71). Most of truck drivers in the present study were married, 74% were monogamy while 10% was living with co-wives. This demographic characteristic of truck drivers was similar to the findings of Sadhya et al., [14] study in South Asia which all of truckers were male and 74% were married.

The results of this study regarding HIV/AIDS knowledge were reasonably satisfactory among truck

drivers in Burkina Faso. All of truck drivers in this study (100%) had heard of AIDS, but what they knew about it varied. The overall knowledge about the modes of transmission of HIV/AIDS was generally good. Almost all of the truck drivers were aware the transmission of HIV by unprotected sex. These figures were similar with the findings of Family Health International survey among Zambia Truck drivers [15], in which almost all the respondents (98%) had heard of HIV/AIDS from media, newspaper and from health workers and relatives. But some misconceptions still exist in truck drivers. Misconceptions as regards to transmission of HIV/AIDS by sharing needles mosquito bite (23.3%), sharing meals (40.7%), and using public toilet (56.7%) were present among truck drivers. This could be due to their level of education as less than 20% of truck drivers have secondary level education and the rest level education is low (illiterate and primary level).

However, even when truck drivers' level of HIV/AIDS knowledge was good; it was not necessarily being reflected in their attitudes. It appears that many contradictions occur. Findings show that there is high awareness of HIV/AIDS among truck drivers in Burkina Faso, but this awareness is coupled with a relatively uninformed attitude towards study of People Living with HIV/AIDS (PLWHA). The score of attitudes ranged from 0 to 6, with a mean of 4.18 ($SD = 1.61$). About 43.3% (N = 65) respondents were not in favor to share toilets and cloths with people who live with HIV/AIDS; 40.7 % of study sample believed that AIDS can be transmitted by sharing meals. This figure was slightly similar with

Table 5. Multiple linear regression test of study outcome (N=150)

Variable	USTD B	STE	STD	t	p	95 % CI	R ²
Constant	5.137	1.538	-	3.339	.001	2.09,8.17	0.161
Education	-1.171	.479	-.280	-2.443	.016	-2.12,-.22	
Knowledge	.159	.077	.175	2.058	.041	.006,.311	
Single round trip	.893	.450	.168	1.986	.049	.004, 1.78	

the findings of Chaudhry, Naeem, Rizwan, Iffat's study [16]. Misconceptions can lead to increased discrimination against patients of HIV/AIDS.

Risky behaviors have been shown by drivers. In this study the majority of truck drivers (78%) have other sexual partners besides their wives. About 34 % of study sample had visited commercial sex workers out of which 26 % had never used condoms. These figures were similar with some surveys conducted with truck drivers about having multiple partners. A Bangladesh study found that each driver had an average of 4.57 partners in the previous year [17]. There were two factors driving truck drivers in Burkina Faso to engage in risky sex. The two factors were length of trip and alcohol drinking appeared to be strongly associated with risky sex. Many truck drivers spend considerable time away from home working, which gave them opportunities to engage in casual and paid sex. Over 50% of truck drivers surveyed in Burkina Faso spent more than 10 days for single trip away from home. Twenty two percent of truck drivers reported drinking alcohol before having sex.

Pearson correlation results showed that age was slightly positively correlated with practice related to HIV/AIDS ($r = 0.215$, $p < 0.01$) but not correlated with level of knowledge and attitude towards people who live with HIV/AIDS. Elder respondents had significantly better practice related to HIV/AIDS. Education level, knowledge and single trip were identified to influence positively the practice related to HIV/AIDS. Education ($p = 0.016$), knowledge ($p = 0.041$) and single trip ($p = 0.049$) are an important predictor for practice related to HIV/AIDS among truck drivers in Burkina Faso in the present study. The underlying assumptions are justified due these three predictor's variables. In Burkina Faso truck drivers who have higher education displayed better practice than those who don't have good education level. According to Chaturvedi et al., [3] education status was found to be significantly associated with condom use.

Truck drivers with more knowledge ($p = 0.041$) showed better sexual behavior related to HIV/AIDS in Burkina Faso. This figure is similar with Family Health International [15] findings in which long distance truck drivers in Zambia who have more knowledge are more awareness of HIV transmission and show better sexual behavior as abstinence and faithfulness towards their wives.

Limitation

The present study has some limitations. This study has its limitations due to small sample size, convenient sampling, and possibility of interviewer bias. The questionnaires were in English initially and translated into French to submit to Burkina Faso truck drivers. This translation may have had shortcomings and that is the other constraint in this study. The language barrier restricts the type of questions that could have been asked.

Recommendation

A more concentrated focus is needed more on changes in sexual behavior and safer sex. The current and future programmes should be culturally centered and focus on the values and beliefs of the target group. It should be planned, developed, implemented, monitored and evaluated with truck drivers and Burkina Faso Ministry of Health. Educational programmes should focus on HIV transmission and AIDs disease Information regarding all modes of transmission HIV/AIDS and other STIs should be given due importance. And strongly promotion of condom usage by truck drivers.

Conclusion

Acquired Immune Deficiency Syndrome (AIDS) remains a public health problem of major significance in most parts of the world. The present study gives some direction for prospective studies assessing the knowledge and attitude of truck drivers or other population with similar demographic characteristics. This study is the first of this nature using reliable study

instruments hence, offering information concerning HIV/AIDS among truck drivers in Burkina Faso. This research has provided understanding the perception of Burkina Faso truck drivers in regard to HIV/AIDS. The study findings underline the negative risk behaviors of truck drivers and indicated that intervention should be focused on truck drivers' education regarding to HIV/AIDS and promotion of condom use should be involved among truck drivers.

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Conflict of interest

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