

Knowledge, attitude, willingness of HIV counseling and testing and factors associated with it, among long distant drivers in Enugu, Nigeria: an opportunity in reduction of HIV prevalence

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Abstract

Background: Long distance truck drivers (LDTDs) have been one of the key forces in the spread of HIV/AIDS across the African continent.

Objective: We set out to assess the knowledge of HIV transmission route, preventive measures, attitude to HIV Counseling and Testing (HCT), willingness and factors associated with willingness to screen for HIV among long distance truck drivers in Enugu, Nigeria.

Method: This was a cross-sectional study of 500 long distance truck drivers aged 19-65 years. They were interviewed with a semi-structured questionnaire on aspects of HCT. Data was analyzed using cross tabulations to examine associations and chi square test for various variables.

Result: A good number of the respondents have wrong ideas of transmission route, ranging from 28.4% to 90.4%. Significantly high number of those with tertiary education will engage in incorrect preventive measures like using antibiotics after sex, and seeking protection from a traditional healer compared to those with no formal education ($\chi^2 = 3.2, p = 0.02$; $\chi^2 = 2.3, p = 0.01$ respectively).. Those with tertiary education and those that were divorced showed a generally good attitude towards HCT and mostly agreed that HCT should be made compulsory compared to others ($\chi^2 = 29.8, p < 0.001$; $\chi^2 = 10.1, p < 0.001$ respectively). There was a significantly high willingness to screen among 302 (60.4%) of the participants. There was also significant association between marital status, educational level and willingness to screen ($\chi^2 = 174.4, p < 0.001$; $\chi^2 = 10.6, p < 0.001$ respectively).

Conclusion: A high number of LDTD had wrong knowledge of transmission route, better educational level did not affect incorrect knowledge of preventive measures, educational and marital statuses affected attitude to HCT, willingness to screen was high with marital status and educational level significantly associated with it. We recommend routine HCT at the work places of truck drivers to correct the anomalies discovered above.

Keywords: HIV counselling, testing, Nigeria, screening, sub-Saharan Africa, truck drivers, willingness.

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Introduction

Human Immune Deficiency Virus infection and Acquired Immune Deficiency Syndrome (HIV infection and AIDS) has become pandemic and one of the challenges facing African countries¹⁻³. It started in Nigeria in the 1980s and is now a generalized epidemic, with prevalence of 3.1%⁴. It showed a prevalence range of 0.9 – 15.4% from sen-

tinel Antenatal clinic sites, with Zamfara state having the lowest prevalence of 0.9% in Nigeria and Benue state having the highest of 15.4%⁵. Enugu State where this study was carried out has a prevalence of 4.9%⁵.

Certain occupations have been associated with an increased risk of acquiring HIV/AIDS. Long distance truck drivers (LTDs) are one of such^{6,7}. Away from the comfort of their wives and homes, families and social environments; for a prolonged period of time that sometimes stretch into months, most truck drivers engage in regular sex with both female and male sex workers, including multiple sex partners⁸. Prevalence of HIV among most at-risk persons and their partners (brothels and non-brothel based female sex workers, men who have sex with men, long distance truck drivers and injection drug users) remains high and accounts for 32.2% of new infections.⁹ A study conducted by Federal Ministry of Health (FMOH) 2010 indicated that HIV prevalence stood at 27.4% for brothel based female sex workers (BBFSW), 21.7% of non-brothel based female sex workers (NBBFSW), 17.2% in men that have sex with men (MSM), 4.2% in intravenous drug users (IDU), and 2.4% in transport workers.¹⁰

A behavioral surveillance survey conducted in Nigeria in 2000 reported that only 13% had ever been tested for HIV⁸. Another work conducted among LTD in South east Nigeria showed that 43.7% were previously screened, 54.8% were willing to undergo HIV screening test if offered freely¹¹. In our study, educational status of the drivers was a significant determinant of willingness to screen, with the more educated showing higher frequency of willingness to be screen. In SouthWest Nigeria, 61.3% of LTDs were willing to uptake HCT services¹². In this study, perceived possible hindrances to HCT uptake were fear of a positive HCT test (86.2% of respondents), stigmatization in 86.7%, lack of in-depth knowledge about HCT in 86%, confidentiality concerns (89%), and poor access to HIV testing services (50.3%). Also older age, car drivers and higher education were factors favoring willingness to uptake of HCT services.

One of the most important tool for prevention is HIV counseling and testing (HCT)¹³⁻¹⁵. It is a process by which an individual undergoes counseling to enable him/her make an informed decision or choice about being tested for HIV. It is entirely voluntary or provider-initiated and it is confidential¹⁶⁻¹⁷. However, in many countries, less

than 50% of the vulnerable groups patronize these services, more out of fear of a possible positive result and the related stigma and discrimination that is associated with the infection, than ignorance of the existence of the service^{7,18,19}.

Therefore this study aimed to evaluate the knowledge, attitude, willingness to HCT and factors associated with willingness to screen among long distance truck drivers, with a view to gain insight into their behavior and lifestyle that may be related to increasing the uptake of HCT among them, thus limiting the spread of the disease.

Methods

This was a descriptive analytical cross-sectional study of long distance truck drivers, conducted from January 2010 – March 2011 at the 9th Mile Corner motor park, Ogbete main market park and the Holy Ghost Park, Enugu State, South East Nigeria. The 9th Mile Corner, as the name implies is nine miles to Enugu metropolis. It is well known for transportation business and a link to other neighboring towns in Enugu State and states in the Middle belt regions of Nigeria. The 9th mile corner has not less than 100 long distance drivers working along that route. The state is bounded by five other states with which it shares common boundaries. Network of roads connect important centers of trade and industry in the state and are the link between the South-East geo-political zone and the middle-belt and have many very busy truck terminals. The 9th mile corner, where the 9th mile motor park is located is in Ngwo part of Enugu. Ngwo has been long known for coal mining activities. The Nigeria coal corporation has been based in Enugu since 1950 where it controlled coal mining²⁰. Brewing and soft drink bottling are among other industries in Enugu located at the 9th mile corner^{21,22}. Trailer vehicles carrying raw materials and taking the finished products for the Northern part of Nigeria via Makurdi and to the MidWestern part of Nigeria via Onitsha and Asaba, pass through 9th mile. Health care services can be obtained at several tertiary health institutions including Enugu state university teaching hospital, University of Nigeria teaching hospital, National Orthopaedic hospital, Enugu and Federal Neuropsychiatric hospital Enugu. There are also several government owned health centers and many private hospitals that serve the residents of Enugu, including people living in the 9th mile area^{23,24}. A lot of petty traders hawk their wares at the 9th mile with night travels to and fro especially to the Northern part of

the country very common. As a result there are sleeping inns and hotels around where commercial sex workers prowl.

Consecutive recruitment of LDTDs, who satisfied the inclusion criteria was done. The inclusion criteria were all LDTD and their assistants present in the concerned motor parks at the time of study, they must be aged 18 years and above, and must have been driving or assisting for not less than 1 year. They must give informed consent and understood English, Igbo or Pidgin English (a local version of English language). Those who did not give their consent and non-drivers found in the motor parks were excluded from the study. Those less than 18 years and those who had not been up to 1 year on the job were excluded. The drivers were identified by their names and identities provided in the records of their respective fleet management offices in the various parks. This helped us eliminate the possibility of duplication. The interview took place at their eating places inside the motor parks. The objectives of the study were explained to them and confidentiality assured by non-inclusion of self-identifying characteristics in the questionnaire. Documentation was made of their socio-demographic characteristics and their Knowledge of HIV/AIDS, attitude to risky sexual behavior and willingness to screen for HCT. Ethical clearance was given by the University of Nigeria Teaching Hospital (UNTH) Ethical Committee and the Bioethical Committee of the Ministry of Health Enugu State. Permission from authorities of the motor park unions and informed consent were obtained.

Four assistants were recruited and trained on the objectives, methods of administration and collection of the questionnaire. The questionnaires were checked and sorted out manually by the author and the data obtained analyzed using SPSS statistical software package Version 19.0. Some open ended questions were used in the questionnaire e.g. where the respondents were require to fill in “others...” options. Correct knowledge of HIV transmission route was defined as transmission through the following routes: sexual intercourse, blood transfusion, mother to unborn child, pregnancy, delivery, breast feeding and sharing sharp objects. Incorrect transmission routes included: sharing eating utensils, mosquito/bed bug mites, witchcraft, kissing and hugging/handshake. The analysis consisted of tabulations to examine relationships. Stratification in terms of educational level and marital status was done to assess the effect of these on willingness to screen and attitude to HCT. The Chi-square test was used for variables. Statistical significance was considered present when p value was less than 0.05. Confidence Interval was 95%.

Results

Five hundred LDTDs were recruited for the study. Five hundred and fifteen questionnaires were distributed, 10 were incomplete and improperly filled, 5 refused to participate for undisclosed reasons. Respondents were all males and most of them, 443 (88.6%) were within the age groups 20-49 years. The mean age of the respondents was 38.3 ± 8.6 years. Two hundred and fifty eight (51.6%) had secondary or higher level education while (48.4%) had primary or no formal education. Majority of them were married 288 (57.6%), Ibos 417 (83.4%) and of Christian religion 444 (88.8%). Up to 29.4% were single, table 1.

Table 1: Socio - demographic characteristics of Nigerian long distance truck drivers

Socio - demographic characteristics	Frequency (n=500)	Percent (%)
Age group (years)		
<20	3	0.6
20-29	137	27.4
30-39	163	32.6
40-49	143	28.6
50-59	42	8.4
≥60	12	2.4
Educational status		
No formal Education	46	9.2
Primary	196	39.2
Secondary	247	49.4
Tertiary	11	2.2
Marital status		
Single	147	29.4
Married	288	57.6
Divorced	30	6.0
Separated	35	7.0

Table 2. Knowledge of transmission and prevention of HIV by long distance truck drivers

	Number (%) 500(100)
Transmission Routes	
Correct knowledge	
• Sexual intercourse	487(97.4)
• Blood transfusion	445(89)
• Mother to unborn child	198(39.6)
• During pregnancy	63.3(12.7)
• During delivery	15.7(3.1)
• By breast feeding	19.1(3.8)
• Sharing sharp objects like needles and razor	296.9(59.4)
• Sharing toilets	379(75.8)
Incorrect knowledge	
• Sharing eating utensils	141.8(28.4)
• Mosquito/bed bug bites	255.2(51)
• Witchcraft	388.5(77.7)
• Kissing	452(90.4)
• Hugging/handshake	446(89.2)
Prevention means	
Correct knowledge	
• Staying with one faithful uninfected partner	492.8(98.6)
• Using condom every time	473(94.6)
• Abstaining from sex	355(71)
• Delaying onset of sexual intercourse	75(15)*
• Avoiding sex with commercial sex workers	26(5.2)*
• Reducing number of sex partners	32(6.4)
• Avoiding sex with people who have multiple sex partners	75(15)
• Avoiding sharing of sharp objects	163(32.6)
Incorrect knowledge	
• Praying to God	162(32.4)
• Going for check-ups	371(74.2)
• Using antibiotics	365(73)**
• Seeking protection from a traditional healer	457(91.4)**

Responses significantly different across educational status, *p < 0.001; **p < 0.05

Table 2 showed the knowledge of HIV transmission and prevention among LDTD. This was divided into correct and incorrect transmission and preventive measures. Majority, 97.4% knew that HIV was transmitted through sexual intercourse. Very few, 3.1% and 3.8% knew that it can be transmitted during delivery and by breast feeding respectively. As high as 90.4% and 82% of the respondents said that HIV can be transmitted by kissing or shaking hands with an infected person respectively. In terms

of correct preventive measures, a large number knew that HIV can be prevented by staying with one faithful uninfected partner and using condom during sex (98.6% and 94% respectively). Delaying onset of sexual intercourse and avoiding sex with commercial sex workers (CSWs) were correct preventive measures that demonstrated significant differences in their response in accordance to their educational level. Majority of those with tertiary education will want to delay their onset of sexual inter-

course (63%) and avoid sex with CSWs (27%), compared to 18% and 4.3% of those without formal education ($\chi^2=22.2$, $p < 0.001$; $\chi^2=12.5$, $p < 0.001$ respectively). 91.4% and 74.2% of the respondents demonstrated an incorrect preventive knowledge of seeking protection from a traditional healer and going for check-ups after

sex respectively. It is also pertinent to note that significantly higher number of those with tertiary education will engage in incorrect preventive measures, like using antibiotics after sex and seeking protection from a traditional healer (90% and 100%) respectively compared to those with no education (69% and 86%), $\chi^2 = 3.2$, $p = 0.02$; $\chi^2 = 2.3$, $p = 0.01$ respectively.

Table 3. Attitude of LDTD to HCCT by Educational and Marital status

Attitude	status. N (%)				χ^2 , p- value
	No formal 46(%)	Educational			
		Primary 196(%)	Secondary 247(%)	Tertiary 11(%)	
Positive					
-it is good for HIV prevention	36(78.3)	145(74)	196(79.4)	9(81.8)	1.9, 0.6
-it should remain entirely voluntary & confidential	38(82.6)	153(78.1)	202(81.8)	10(90.9)	1.9, 0.6
-it should be widely Available	25 (54.3)	111 (56.6)	142 (57.5)	10 (90.9)	5.3, 0.2
-it should be compulsory for everybody.	1 (2.2)	4 (2.0)	4 (1.6)	3 (27.3)	29.8, <0.001*
Negative					
-it is a breach on one's freedom	8 (17.4)	21 (12.8)	21 (9.7)	0 (0.0)	4.7, 0.2
-it does not lead to prevention of HIV/AIDS	8 (17.4)	25 (2.8)	24 (9.7)	0 (0.0)	4.1, 0.3
		Marital			
	Single 147(%)	Married 288(%)	Separated 35(%)	Divorced 30(%)	
Positive					
-it is good for HIV prevention	112 (76.2)	222 (77.1)	31 (88.6)	21 (70.0)	3.5, 0.3
-it should remain entirely voluntary & confidential	119 (81)	229 (79.5)	31 (88.6)	24 (80.0)	1.6, 0.6
-it should be widely Available	86 (58.5)	157 (54.5)	27 (77.1)	18 (60.0)	6.7, 0.1
-it should be compulsory for everybody.	5 (3.4)	4 (1.4)	0 (0.0)	3 (10.0)	10.1, <0.001*
Negative					
-it is a breach on one's freedom	18 (12.2)	36 (12.5)	1 (2.9)	2 (6.7)	3.6, 0.3
-it does not lead to prevention of HIV/AIDS	15 (10.2)	32 (11.1)	1 (2.9)	2 (6.7)	2.7, 0.4

Table 3 showed the attitude of Nigerian LDTDs to HCT in terms of educational and marital status. It also divided their attitudes into positive and negative aspects. Those with tertiary education and those that were divorced showed a generally good attitude to HCT than the others. Their response showed a significant difference as to whether HCT should be compulsory for everybody

($\chi^2 = 29.8, p < 0.001$; and $\chi^2 = 10.1, p < 0.001$ respectively). Those with tertiary education and those that were divorced were more likely to agree that HCT should be made compulsory. For negative attitudes to HCT, there were no significant differences in terms of educational and marital status. However, it should be noted that none of the respondents with tertiary education demonstrated a negative response to HCT.

Table 4. Willingness to screen of LDTDs in relation to Educational and Marital Status

Status	Willingness to screen. N (%)	
	Yes N= 302(60.4)	No N= 198(39.6)
Marital *		
• Single	24(7.9)	123(62.1)
• Married	229(75.8)	59(29.8)
• Divorced	27(8.9)	3(1.5)
• Separated	22(7.3)	13(6.6)
Educational **		
• No formal	27(8.9)	19(9.6)
• Primary	126(41.7)	70(35.4)
• Secondary	138(45.7)	109(55.1)
• Tertiary	11(100)	0

*Marital status ($\chi^2 = 174.4, p < 0.001$), ** Educational status ($\chi^2 = 10.6, p < 0.001$)

Table 4 demonstrated the willingness to screen of LDTD in relation to educational and marital status. There was a significant association between marital status, educational status and willingness to screen, $\chi^2 = 174.4, p < 0.001$; $\chi^2 = 10.6, p < 0.001$ respectively. Most of the married were willing to screen (75.8%), while 62.1% of the singles were not. All with tertiary education were willing to screen. As high as 55.1% of those with secondary education were not willing to screen.

Discussion

The main findings of the study were a generally good knowledge of prevention of HIV/AIDS among LDTD, ranging from (69% - 100%) across the educational levels. However, it is interesting to note that in spite of this, sex with commercial sex workers and not being faithful to one's partner showed a significantly poor response as

a preventive measure; only 3.6% - 27% and 2.1% - 8% across the various educational levels respectively gave the right responses, table 1. Other unproven methods of prevention were noted to be very common among LDTD's e.g. the use of antibiotics after an act of unprotected sex, going for medical checkups after having sex not necessarily going to check their HIV status, and protection from a traditional healer with wrong responses ranging from 69% - 100%. Abstinence, being faithful to one's partner and the use of condom are the basic rudiments of HIV prevention. This observation is similar to other studies in the developing countries^{25,26,27}. In one of these studies carried out in 17 countries of Africa, it was shown that more than half of young people did not know how to protect themselves from HIV²⁷. There was a generally good attitude to HCT in the range of 54.3% to as high as 90.9% across the various educa-

tional groups. Some of the LDTD thought it should be compulsory for everybody. However this does not translate to the practice of HCT. Out of the 500 LDTDs that were studied, only 17.0% had practiced HCT (not reflected in the tables). This did not agree with previous studies which noted negative attitude and practice of HCT^{28,29}. These changes may be due to increasing information and awareness as already observed. Again, in developed countries with better health facilities, higher literacy level, awareness and resources, the uptake of HCT is very high³⁰.

The married were more likely to practice HCT (24.7%) than the single (4.1%), and practice of HCT was found to be associated with the highest educational level attained by the respondents. The reasons given by Nigerian long distance drivers for this poor practice of HCT were lack of knowledge of where to go for HCT in about half of them (51%). Studies done in some African countries showed that HCT services were not widely available, especially outside the main or urban centers^{15,19,31}. In most health institutions in Nigeria, HIV testing is limited to diagnostic purposes and is not available to people in the general population interested in knowing their sero-status^{15,27}. This has a serious public health implication in the efforts to stem the HIV pandemic. An HIV positive person with unknown sero – status is a great danger to the public. The relationship between marriage and the high uptake of HCT among long distance drivers may be due to the compulsory screening embarked upon by churches in the bid to curb the spread of the disease among intending couples and their unborn children.

Our study further revealed that fear and anxiety accounted for 37% of why long distance drivers did not practice HCT. This is similar to findings from other studies done in developing countries^{31,32}. It is a fact that people living with HIV/AIDS are stigmatized and discriminated against. These negative effects of living with HIV/AIDS create an atmosphere that discourages effective prevention by dissuading persons from coming freely for testing and from seeking information on how to protect themselves and others^{33,34}. It has also been shown by studies that ignorance, poor perception of individual risk, and the widespread stigmatization and discrimination associated with the disease are other factors limiting the practice of HCT^{15,27}. These negative responses and attitudes towards people living with HIV/AIDS (PLWHA) are strongly linked to the general level of knowledge about

the disease and in particular, to the causes of HIV and its mode of transmission. In most societies, AIDS is associated with groups whose social and sexual behavior does not meet with public approval³⁵. The main factors that have been identified as contributing to HIV/AIDS related stigma are the fact that HIV/AIDS is a life threatening disease which people are afraid to contract.

Although this study noted a higher perception of risk for HIV infection in about 76% of them, it also in about 60.4%, showed a high willingness to screen. This finding is somewhat better in terms of willingness to screen than previous studies by Wilson, et al. In their 1995 and 1997 surveys, they found that 37.9 and 39.1% of the drivers, respectively, considered themselves to be moderately or highly at risk of contracting HIV but only 30% of them were willing to screen for HIV. This poor willingness to screen in their study may be due to early period of study, when little was known about the disease and the driver's poor perception of individual risk of contracting the disease. However much has not changed in this regard due to reluctance to reach out to key populations such as sex workers, people who inject drugs, transgender people, prisoners, and gay men and other men who have sex with men³⁶. Educational level and marital status were associated with willingness to screen in our study. All LDTDs with tertiary education were willing to be screened for HIV, while most married long distance drivers were willing to be screened. The importance of obtaining a reasonable level of education, especially up to secondary education cannot be over emphasized. There are conflicts of report about level of education and knowledge of AIDS and willingness to screen among LDTDs. Meda, et al working in Burkina Faso found significant association with educational level, while Okafor, et al in Lagos, Nigeria, among a similar group of respondents, found no association with educational level^{37,38}. A lot of information on HIV/AIDS has been disseminated through Campaigns and the Media, so having formal education may not necessarily influence knowledge³⁸. It is interesting that most married men were willing to screen for HIV, they are a good target group for HCCT.

This study has its limitations. Owing to the cross sectional nature, findings should be interpreted as associations rather than implying causality. As the sample was not a perfect random one, some selective bias may exist. Another limitation of the analysis are non-response bias,

however the relative high response rate (97%) might minimize this bias. Our questionnaire might not reflect all aspects of knowledge, attitude, willingness to screen and its associated factors. Also population of long distance drivers is highly mobile, so we cannot say that we interviewed a sample is 100% representative of the drivers in the various motor parks. Despite these limitations, our findings provide valuable information for HIV test.

Conclusion

Our study showed that more than half of the long distance drivers have wrong ideas of HIV transmission route. Significant number of better educated respondents had wrong knowledge of preventive measures, although generally there was good knowledge of HIV preventive measures. Educational level and marital status were significantly associated with attitude to HCT. There was high willingness to screen for HIV infection among the respondents. This was also associated with the level of education and marital status.

Recommendations

From the findings of our study, strengthening the existing prevention strategies is the way to go. Emphasis on knowledge of HIV transmission routes and prevention and countering misconception of HIV transmission modes should be stepped up. Provision of free mobile HCT centres within the motor parks to increase accessibility to testing will also be good.

Misconceptions about the unproven and unscientific means of transmission and negative attitudes should be dissuaded through adequate information by means of public awareness campaign. This can be achieved by proper coordination between the individual health care providers, the mass media, the educators, the non-governmental organizations and the government as policy formulators; in conjunction with various truck park representatives who should be given a short term but well packaged training in HCT adapted for use among their colleagues.

Conflict of interest

None.

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