

Investigating the Efficacy of HIV/AIDS Psycho-Education and Behavioural Skills Training in Reducing Sexual Risk Behaviours in a Trucking Population in Nigeria

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Abstract—Long Distance Truck Drivers (LDTDs) have been found to be a high risk group in the spread of HIV/AIDS globally; perhaps, due to their high Sexual Risk Behaviours (SRBs). Interventions for reducing SRBs in trucking population have not been fully exploited. A quasi-experimental control group pretest-posttest design was used to assess the efficacy of psycho-education and behavioural skills training in reducing SRBs among LDTDs. Sixteen drivers were randomly assigned into either experimental or control groups using balloting technique. Questionnaire was used as an instrument for data collection. Repeated measures t-test and independent t-test were used to test hypotheses. Intervention had significant effect on the SRBs among LDTDs at post-test ($t(7) = 6.01, p < .01$) and at follow up ($t(7) = 6.42, p < .01$). No significant difference in sexual risk behaviour of LDTDs at post-test and at follow-up stage. Similarly, intervention had significant effects on sexual risk behaviour at post-test ($t(14) = -4.69, p < .05$) and at follow-up ($t(14) = -9.56, p < .05$) respectively. At post-test and follow-up stages, drivers in experimental group reported reduced SRBs than those in control group. Drivers in experimental group reported lower sexual risk behaviour a week after intervention as well as at three months follow-up than those in control group. It is concluded that HIV/AIDS preventive intervention that provides the necessary informational and behavioural skills content can significantly impact long distance truck drivers' sexual risk behaviours.

Keywords—HIV/AIDS interventions, Long distance truck drivers, Nigeria, Sexual risk behaviours.

I. INTRODUCTION

WHAT appears to be a major route through which Human Immunodeficiency Virus (HIV), Acquired Immune Deficiency Syndrome (AIDS) and Sexually Transmitted Infections (STIs) are spread within different populations is engagement in sexual risk behaviour. In other words, individuals that are engaged in all sorts of sexual risk behaviour are more likely to contract HIV, AIDS or STIs. One of the high risk groups to HIV/AIDS that have been severally established in the literature worldwide is Long Distance Truck Drivers (LDTDs) [1]. The major reason to this finding could be the high involvement of LDTDs in various forms of sexual risk

behaviours that include unprotected sex, casual sexual relationship or heavy use of alcohol before sex [2] among others. However, all the aforementioned various forms of sexual risk behaviours can be reduced if trucking populations are experimentally exposed to comprehensive HIV/AIDS psycho-education and behavioural skills training as an effective HIV/AIDS prevention intervention.

The most commonly documented sexual risk behaviours across different populations in Nigeria like any other country in Africa and rest of the world include inconsistent and incorrect use of condoms, heavy alcohol use before sex, unprotected sex with commercial sex worker; casual sex and sex with multiple partners among others [3]-[6]. No doubt, these various forms of sexual risk behaviours have also been reported as common among long distance truck drivers worldwide. For instance, [7] reported low rate of condom use among long distance truck drivers.

In same vein, other studies carried out in various countries have revealed high to moderate sexual risk behaviour among long distance truck drivers. For example, sexual risk behaviours have been reported as high as 56% among long distance truck drivers in South Africa [8]. In India, a review of sexual risk behaviour of truck drivers' show that about 67% long distance truck drivers visited sex workers and 27% sustained a STI within previous year of the study [6]. Similarly in Nigeria, [9] reported that most drivers have an average of one sexual partner per stop on the way to their destinations. It can be inferred from the finding that the more number of stops or parks, the more likely is number of drivers' sexual partners. In same study, three-quarter of drivers reported more than one partner, 40% had been treated of STDs and one-tenth of the drivers knew at least one person who had been treated for AIDS. The argument here is simply to note that long distance truck drivers have more sex than individuals in the general population when you considered their number of sexual partners.

In the context of the present study, HIV/AIDS psycho-education focused on increasing HIV/AIDS Knowledge in the areas of causes, how HIV is transmitted, and how to avoid contracting it. Also, how drivers engage in high risk behaviour and how to make them adopt safer sexual behaviours or refrain from sexual risk behaviour all together. In other words, the HIV/AIDS psycho-education for the corporate long distance drivers included basic information about HIV and

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AIDS, on virus, its origins, symptoms and testing based on the levels of drivers' HIV knowledge. This was to positively influence the drivers' HIV prevention knowledge by increasing it. Findings have shown that HIV knowledge relates with sexual risk behaviour in different populations such as drivers, adolescents etc. [10], [11]. What this means is that a long distance truck driver who is knowledgeable about HIV infection, the causes and preventive measures is less likely to engage in any form of sexual risk behaviour. However, being knowledgeable about HIV and AIDS may not be enough to ensure reduction in sexual risk behaviour among LDTDs. The trucking population may require a special skills training in the use of a globally acceptable preventive measure called condoms.

Condom use appears to be the most acceptable preventive behaviour to HIV infection worldwide; most especially when the condom is used correctly and consistently. However, most drivers do not adhere to the use of condoms regularly when they engage in sexual behaviours. This may be attributed to their lack of skills in effective use of condoms during sexual relationships. For example, [12] reported general low rate of condom use among long distance truck drivers. A study by [13] had earlier reported that about 60% of truck drivers with high risk sexual practices are unwilling to use a condom. The implication of this is that if drivers are given preventive behavioural skills training like understanding the effective usage of condoms which include skills to buying condoms; negotiating the use of condoms with sexual partners and inserting condoms properly and regularly, they are more likely to use them; hence engaging less in sexual risk behaviours. The purpose of study therefore was to experimentally examine the efficacy of HIV/AIDS psycho-education and behavioural skills training in reducing sexual risk behaviour among corporate long distance truck drivers in Lagos, Nigeria.

II. METHODS AND MATERIAL

A. Research Design

In the study, the researchers employed a quasi-experimental pretest-posttest groups' design; which was reported to be most appropriate for an intervention study [14]. The HIV/AIDS intervention given to the drivers in the study composed of HIV/AIDS psycho-education and behavioural skill training. Practically, the research design has two groups (experimental and control groups) and the intervention followed the process. Drivers in experimental group were exposed to the intervention and those in control group were not exposed any intervention; rather just a meeting.

B. Sampling Method

The researchers selected drivers who had high scores above the mean score on the sexual risk behaviours scale to participate in the experiment. The participants were randomly assigned into either experimental or control groups using simple balloting technique (i.e. distributing squeezed papers that were labeled A & B). Known to the researchers alone, LDTDs who picked papers labeled A would be assigned into

experimental group and those who picked papers labeled B would be assigned into Control group. At the end, sixteen (16) drivers were randomly assigned into the two groups; with eight (8) a piece.

C. Ethical Consideration

Anonymity of participants and confidentiality of the information they provided were prime ethical issues. All participants were assured that their names would not be used; only code number of the group belonged to were used to identify participants on subsequent meetings for data collection.

D. Participants

Sixteen (16) randomly assigned male corporate long distance truck drivers from a haulage company in Lagos, Nigeria participated in the study where eight (8) drivers were in each of the two groups. Ages of participants ranged from 31 years to 60 years with mean age of 41.43 years and standard deviation of 7.22 years. The participants spent a minimum total of 6 years in formal education with maximum number of 15 years. The participants had an average of 9.87 as total number sex had within the previous three months prior to the time of the study. Also, the participants had an average of 1.44 wives with an average of 2.43 partners apart from primary partners. Finally, the participants spent a minimum of 2 weeks outside their various homes with a maximum of 15 weeks and average of 4.63 before coming back to meet their family members. Table I presents the socio-demographic characteristics of the drivers.

TABLE I
SOCIO-DEMOGRAPHIC CHARACTERISTICS OF ALL PARTICIPANTS IN BOTH
EXPERIMENTAL AND CONTROL GROUPS

Variable	N	%
Religion		
Christianity	5	31.3
Muslim	11	68.8
Level of Education		
No Formal Education	1	6.3
Primary Education	5	31.3
Secondary Education	10	62.5
Alcohol Use		
Present Use	8	50.0
Not Use	8	50.0
Tobacco Use		
Present Use	9	56.3
No Use	7	43.8

E. Experimental Group

This consisted of eight (8) selected corporate drivers with age range of 32 to 48 years with mean age of 39.25 years and standard deviation of 5.04 years. The range of number of years the participants in experimental group spent in formal education was 6-15 year, with mean of 9.50 and standard deviation of 3.25 years. The range of number of sex had within the previous three months prior to the time of study was 1 to 18, with an average of 11.12 and standard deviation of 6.17. The participants in the experimental group had an average of 1.37 as number of wives; ranging for 0 to 2 wives. The participants reported having an average of 2.25 sexual partners apart from their primary partners. Finally, the

participants in the experimental group reported spending an average of 5.88 week outside their various homes with a minimum of 2 weeks and a maximum of 5 weeks. Table II presents socio-demographic characteristics of the participants in experimental group.

TABLE II
SOCIO-DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS IN
EXPERIMENTAL GROUP

Variable	N	%
Religion		
Christianity	2	25.0
Muslim	6	75.0
Level of Education		
No Formal Education	0	00.0
Primary Education	2	25.0
Secondary Education	6	75.0
Alcohol Use		
Present Use	4	50.0
Not Use	4	50.0
Tobacco Use		
Present Use	3	37.5
Not Use	5	62.5

F. Control Group

This consisted of eight (8) corporate drivers with age range of 31 to 60 years and mean age of 43.63 years and standard deviation of 8.68 years. The range of number of years the participants in control group spent in formal education was 6-12 year, with mean of 9.00 and standard deviation of 2.78 years. The range of number of sex had within the previous three months prior to the time of study was 3 to 20, with an average of 8.63 and standard deviation of 5.46. The participants in the control group had an average of 1.50 as number of wives; ranging for 1 to 3 wives. The participants reported having an average of 2.63 sexual partners apart from their primary partners. Finally, the participants in the control group reported spending an average of 3.38 week outside their various homes with a minimum of 2 weeks and a maximum of 6 weeks. Table III presents other socio-demographic characteristics of the participants in control group.

TABLE III
SOCIO-DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS IN CONTROL
GROUP

Variable	N	%
Religion		
Christianity	3	37.5
Muslim	5	62.5
Level of Education		
No Formal Education	1	12.5
Primary Education	3	37.5
Secondary Education	4	50.0
Alcohol Use		
Present Use	4	50.0
Not Use	4	50.0
Tobacco Use		
Present Use	4	50.0
Not Use	4	50.0

G. Measures

In the study, the researchers collected relevant data through the use of a structured questionnaire. The questionnaire consisted of standardized scales with robust psychometric properties. The questionnaire included socio-demographic

variables, the 23-item HIV knowledge questionnaire, 28-item condom use self efficacy scale and the 6-item sexual risk behaviour scale.

H. Procedure

The HIV/AIDS psycho-education and behavioural skill training as interventions was developed based on the findings from the elicitation research [15] and deficiency of the trucking population in the variables of study. The intervention comprised of two sessions (modules) in a day. The choice of picking a day for the intervention was because of the mobility of the population. Each of the two modules in the intervention package took 45 minutes; making one hour, thirty minutes (1 hrs 30 minutes) for the entire HIV/AIDS psycho-education and behavioural skill training intervention.

First Module was to reduce the gaps in information regarding HIV issues related to transmission, prevention, incidence, prevalence and vulnerability to HIV infection, misconceptions (e.g. "that HIV is not real"), insightful and inductive in reasoning among long distance truck drivers were discussed.

Second Module was to focus on specific training for the corporate long distance truck drivers to perform skillfully and effectively the steps required for performing various HIV preventive behaviours such as condom use and the self efficacy to do so. These involved skills to negotiate the use of condom e.g. role play "condom negotiation", "purchasing a condom" or "friend's or partner's risk of AIDS" or "being assertive to any unwanted sexual offer". All these were done by the researchers. After the experimentation, follow-up assessments were carried out after 3 months and 7 months of the last session of the intervention with the experimental group in order to examine the trend of the drivers' sexual risk behaviours despite the HIV/AIDS Psycho-education and behavioural skill training exposed them to.

III. RESULTS

It was hypothesized that corporate long distance truck drivers who received HIV/AIDS psycho-education would significantly report low sexual risk behaviour at post-test and at three months follow up. The hypothesis was tested with t-test for repeated measures. Table IV presents the results.

TABLE IV
SUMMARY OF REPEATED MEASURE T-TEST ON SEXUAL RISK BEHAVIOUR OF
DRIVERS IN EXPERIMENTAL GROUP AT POST-TEST AND AT THREE MONTHS
FOLLOW UP

Stage	N	Mean	SD	df	t	P
Pair 1SRB Pre-test	8	16.50	2.27	7	6.01	.00
SRB Post-test	8	11.63	0.74			
Pair 2SRB Post-test	8	11.63	0.74	7	0.36	.73
SRB Follow-up	8	11.50	0.76			
Pair 3SRB Pre-test	8	16.50	2.27	7	6.42	.00
SRB Follow-up	8	11.50	0.76			

The result of t-test for repeated measures shows that there was a significant effect of the treatment on the sexual risk behaviour of corporate long distance truck drivers at post-test ($t(7) = 6.01$, $p < .01$). The result indicates that the drivers

reported lower sexual risk behaviour at post-test (mean=11.63) than at pre-test (mean=16.50). This finding suggests that drivers reported lower sexual risk behaviour due the intervention training. Similarly, the result shows that there was a significant effect of the treatment on sexual risk behaviour of corporate long distance truck drivers at follow up ($t(7) = 6.42$, $p < .01$). The result suggests that the drivers reported lower sexual risk behaviour at follow-up (mean=11.50) than at pre-test (mean=16.50). This result indicates that drivers still reported lower sexual risk behaviour after three months after they had received the psycho-education and behavioural skills training than when they have not. Finally, the result showed that there was no significant difference in sexual risk behaviour of corporate long distance truck drivers at post-test and at follow up ($t(7) = 0.36$, $p > .05$). The result suggests that there was no significant difference in sexual risk behaviour of drivers at post-test (mean=11.63) and at follow-up (mean=11.50). This suggests that the drivers still maintained their low levels of sexual risk behaviour a week after the treatment and three months after. This result generally shows the efficacy of the HIV/AIDS psycho-education and behavioural skills training in reducing sexual risk behaviour of drivers who were exposed to the training.

It was hypothesized that corporate long distance truck drivers who received HIV/AIDS psycho-education and behavioural skills training would significantly report lower sexual risk behaviour at post-test and three months follow up than those did not receive the training. The hypothesis was tested with t-test for independent samples. Table V presents the results.

TABLE V
SUMMARY OF T-TEST FOR INDEPENDENT SAMPLES ON SEXUAL RISK
BEHAVIOUR OF DRIVERS EXPERIMENTAL CONDITIONS

Group Type	N	Mean	SD	df	t	p
SRB Pre-test Exptal Grp	8	16.50	2.27	14	0.61	.55
Control Grp	8	15.38	4.69			
SRB Post-test Exptal Grp	8	11.63	0.74	14	-4.69	.00
Control Grp	8	17.63	3.54			
SRB Follow-up Exptal Grp	8	11.50	0.76	14	-9.56	.00
Control Grp	8	18.13	1.80			

The results in Table V show that the intervention had significant effect on sexual risk behaviour of corporate long distance truck drivers at post-test ($t(14) = -4.69$, $p < .05$) and at follow-up ($t(14) = -9.56$, $p < .05$) respectively. It was revealed that at post-test stage, drivers who were exposed to the intervention reported reduced sexual risk behaviour (mean=11.63) than those who were not exposed to the treatment (mean=17.63). In a similar vein, the results show the efficacy of the intervention at follow-up; where drivers in experimental group reported lower levels of sexual risk behaviour (mean=11.50) than those in control group who were not exposed to the training (mean=18.13). However, there was no significant difference when the training had not been introduced to those in the experimental group ($t(14) = 0.61$, $p > .05$). The result for the pre-test stage showed that drivers in experimental group (mean=16.50) were not significantly

different in levels of sexual risk behaviour from those in control group (mean=15.38).

IV. DISCUSSION

The researcher examined the efficacy of HIV/AIDS psycho-education and behavioural skills training in reducing sexual risk behaviour among corporate long distance truck drivers in Lagos, Nigeria. The findings were relevant and useful for policies making. Specifically, corporate long distance truck drivers who received HIV/AIDS psycho-education and behavioural skills training significantly reported lower sexual risk behaviour at post-test and at follow up stages. This is an indication that the intervention was effective in reducing sexual risk behaviour of drivers even in a short period; perhaps the information and skills gathered during the intervention were still lingering in their mind during this period. Similarly, at three months follow-up, lower levels of sexual risk behaviour were reported by drivers who were exposed to the intervention. Another confirmation that the intervention introduced to the corporate long distance truck drivers was effective even at long period of three months because drivers in the experimental group still maintained reduced levels of sexual risk behaviour over the period. Efficacy of intervention such as information, motivation and behavioural skills intervention has been widely demonstrated by researchers in the areas of HIV and AIDS [16]-[18] suggesting that information that is directly relevant to the personal practice of preventive behaviour, motivation to practice prevention, and behavioural skills for practising prevention effectively, are the fundamental determinants of STD/HIV preventive behaviour such as the use of condoms regularly and correctly.

Another finding showed that corporate long distance truck drivers who received HIV/AIDS psycho-education significantly reported lower sexual risk behaviour than those who did not at post-test and at follow up stages. A host of previous studies predicts the significant effect of information, motivation and behavioural skills preventive intervention on sexual risk behaviour of long distance truck drivers. An intervention based on the IMB model, where IMB constructs were assessed among male truck drivers immediately prior to and following implementation of the intervention, and sexual and condom use behaviour were assessed approximately 10 months later. Their findings showed mixed support for the effectiveness of the intervention. Their findings further showed that there was an effect of the IMB intervention on attitudes, norms, behavioural skills and intention specific to condom use with marital partners. Similarly, the current finding supports [18] which established the impact of IMB model intervention on increasing HIV and AIDS preventive knowledge, motivation and behavioural skills among individuals.

V. CONCLUSION

The efficacy of HIV/AIDS psycho-education and behavioural skills training was demonstrated in the study. It

was revealed that drivers who participated in the training reported reduced sexual risk behaviour after the intervention at three and seven month's follow-ups. Similarly, differences were observed in the levels of sexual risk behaviour of drivers who were exposed to the intervention and those who were not exposed to the intervention. It can be concluded that prevention intervention that considers increasing HIV/AIDS knowledge and improve skills of trucking population in the use of a particular preventive measure (i.e. condoms) is effective in reducing their levels of engagement in various forms of sexual risk behaviour.

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