

Assessment of Level of Compliance with the Use of Condom Among HIV Infected Couples in Kaduna State, Nigeria.

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Abstract

Background: The use of condom is key in the global fight against HIV and AIDS, this helps to reduce the rate of infection and disease burden in the general Population. This underscores the need to intermittently study or assess level of compliance with the use of condom as a preventive measure.

Methods: The research was conducted to assess the level of compliance on condom use among HIV-infected discordant couples in Kaduna State Nigeria. The study was conducted in Antiretroviral (ART) treatment centers of 9 LGAs of the 23 LGAs in Kaduna State Nigeria. A total of 158 couples or 317 individuals were recruited for the study. A detailed questionnaire was used to collect data on demographics, the use of condom and practice of unprotected sex.

Discussion: The results obtained in the study shows that majority of the respondents 225(71%) were Christians, and majority 224(70.7%) were unemployed. Most of the respondents 230(72.6%) never used condom while 87(27.4%) used condom. The study also revealed that Educational status of respondents had strong association to their perceived attitude towards use of condom during sex (p-value 0.009) while attitude towards practice of unprotected sex was statistically insignificant (p-value 0.404). There is need to improve on educational coverage for the entire population in order to mitigate the scourge of HIV transmission.

Introduction

Condom became popular in the early days of the discovery of human immunodeficiency virus/ acquired immune deficiency syndrome (HIV AIDS) in the early 1980s. This was as a result of intensive researches aimed at getting a solution for the problem "HIV AIDS". The coming of AIDS made it clearer how useful condoms can be in terms of protection against sexually transmitted infections (STI) and unwanted pregnancy (Majra, 2010). With the aggressive campaign against HIV transmission globally, condoms became more acceptable among sexually active sections of the population. Availability of condoms without prescription makes them handy and hence increased its efficiency in mitigating HIV transmission. However for some reasons such as: a moderately high failure rate when used improperly or inconsistently, the potential for diminished sensation during sexual activity, skin irritation such as contact dermatitis due to latex sensitivity or allergy, allergic reactions to spermicides, lubes, scents and other chemicals in the condom; some people refuse the idea of using condom when necessary. HIV infected couples are expected to be committed to use of condom to prevent transmission (in case of discordant couples) and re- infection in addition to the use of anti- retroviral treatment ART (Tadesse, 2015).It is also pertinent to state here that a UN/WHO position statement (2004), also made it clear that condom use is a critical element in a comprehensive, effective and sustainable approach to HIV prevention and treatment. One can say that the most significant barriers such as lack of privacy in stores and social stigma were associated with condom use. The reported problems related to not using condom include not accepted by sexual partner, perceived ineffectiveness, less comfort, lack of sexual satisfaction with condoms, husband's alcohol use, depression, anxiety, and not available at that instant (Donta, Begum and Naik,

2014). Other factors negatively associated with condom use are: non disclosure, reporting a casual sex partner, and desiring a pregnancy (Bachanas *et al.*, 2013).

Materilas And Methods

Study area/ design

This study was conducted in HIV treatment centers situated in all general hospitals in Kaduna State. Kaduna State is one of the 19 northern states of Nigeria and has long been seen as the Major capital of the northern region, and now the capital of the North West (Kaduna State, 2020). It is ranked 4th by land area and 3rd by population in Nigeria. The state capital was the former capital city of the British protectorate of Northern Nigeria region (1923–1966) after Zungeru (1903–1923) and Lokoja (1897–1903). It is made up of some major towns which include: Zaria, Kagoro, Kafanchan, Kachia, Zonkwa, Makarfi and Birnin Gwari (Kaduna State, 2020). Kaduna State has coordinates of 10⁰ 20'N 7⁰ 45' E of Nigeria. It has a total land area of 46,053 km² and a total population of 6,113,503 according to the 2006 population census of Nigeria (NPC, 2006). Kaduna State has over 1,000 primary healthcare facilities to cater for every resident - even in the most remote village or ward of the state. In addition to these, the government has made efforts to establish General hospitals in each of the 23 LGA headquarters to enhance effective and accessible healthcare for its citizens. These General hospitals have now become treatment centers for HIV anti retroviral therapy all around the state.

The survey recruited 158 discordant couples which amounted to 317 individuals. Kaduna State of Nigeria has 23LGAs. These LGAs were further grouped into three senatorial zones, out of which three LGAs were finally selected by simple random sampling from each senatorial zone. This stratified sampling technique resulted into 9LGAs from which we got the 317 individuals. These LGAs are: Kudan, Lere and Soba (Kaduna north senatorial zone), Kajuru, K/north and Giwa (Kaduna central senatorial zone), Kachia, Jema'a and Kagarko (Kaduna south senatorial zone).

Sample collection

A structured questionnaire containing questions on demography and other required information was issued to all the respondents, with adequate guidance on how to fill- in their responses correctly. This took place during group information session (GIS).

Statistical Analysis

The data generated was analyzed using Chi square at 95% confidence interval with the SPSS 21 statistical package. A p- value of ≤ 0.05 was considered statistically significant.

Results

Figure 2 above shows the condom- use distribution for respondents, with a higher population 72.6% not using condom while 27.4% of them signified their usage of condom during sex, even if it's not always.

Below the figure is the mean value 0.2744 and standard deviation 0.44694 for usage of condom among the study population. Table 1 gives a reflection of how the extent of one's education can affect the perception on the need to use condom in the case of HIV infection. The Table shows that 17.4% of participants in the survey had no education, 22.7% had primary education, and a huge 50.8% of the study population had secondary education while a paltry number 9.1% were of tertiary education level. Also worthy of note is the fact that in Table 3 we can see that the highest number of people 44.8% who used condom were from the tertiary education group, and then followed by the secondary school category with 31.7%. The P- Value 0.009 is of statistical significance, being lower than α - Value 0.05; only 27.4% of the study population used condom.

Table 1
Effect of Education on the use of condom (N = 317)

Educational coverage	Use of Condom		Total (%) a	Total (%) b	P- Value
	NO	YES			
No Formal Education	46	9	55(17.4)	16.4	0.009
Primary Education	58	14	72(22.7)	19.4	
Secondary Education	110	51	161(50.8)	31.7	
Tertiary Education	16	13	29(9.1)	44.8	
TOTAL	230	87	317(100)	27.4	
Pearson Chi square P- value					

a is percentage of participation based on educational coverage.

b is percentage of category that used condom.

Table 2 presents a p- value of 0.404 and 74(23.3%) respondents who used condom once a while, and 3(0.9%) for conception only. 240(75.7%) respondents never used any protection i.e. condom.

Table 2
Effect of Education on the Frequency of unprotected sex (N = 317)

Educational Coverage	NUMBER OF TIMES			TOTAL	P- Value
	Once a while (%)	Always (%)	Conception (%)		
No Formal Education	9(16.4)	46(83.6)	0(0)	55(100)	0.404
Primary Education	14(19.4)	58(80.6)	0(0)	72(100)	
Secondary Education	42(26.1)	117(72.7)	2(1.2)	161(100)	
Tertiary Education	9(31.0)	19(65.5)	1(3.4)	29(100)	
TOTAL	74 (23.3)	240 (75.7)	3 (0.9)	317(100)	
Pearson Chi square P- value					

Discussion

This study was conducted among HIV discordant couples who accessed treatment at the various treatment centers in Kaduna state, Nigeria. The study revealed in Fig. 1, that more of the infected couples that were of the Christian faith 71% presented themselves for treatment more than those of the Islamic faith 21%. Majority of the respondents 70.7% were unemployed i.e. jobless. This agrees with Shisana, Zungu and Pezi, (2010); Whiteside, (2010), who both explained that poverty, increases the spread of HIV and AIDS increases poverty- it's a vicious cycle.

We also see in Fig. 2, that majority of infected couples 72.6% did not use condom as against 27.4% who used condom; this agrees with Donta, Begum and Naik, (2014) who reported that more sexually active unmarried population, 72.4% women and 98% men used condom than the married populations. It is evident here that married HIV infected couples do not give attention to the use of condoms as much as unmarried people do. This may be largely because the unmarried sexually active people are bothered with problems of unwanted pregnancy and STIs; a problem that is no longer an issue with the discordant couples- one of the partners is already infected after all, and most of the women are already on birth control pills. Also, low compliance agrees with 29.4% and the various reasons for using condom among the married as reported by Nduka et al., (2014). There is no gain saying that the discordant couple still needs to use condom correctly and consistently to reduce the disease burden and also to minimize re-infection and transmission of HIV. Condoms remain of utmost importance in the prevention of STI/HIV, and offers maximum protection (more than 90%) against HIV (Marfatia, Pandya and Mehta, 2015); hence its importance in HIV discordance cannot be over emphasized. Education they say is the bed- rock of every development; so it is with the use of condom by HIV infected couples. The figures in Table 1 shows us that majority of the couples who participated in this study 50.8% had secondary education while the

least 9.1% had tertiary education. We can as well deduce that majority of HIV infected people in Kaduna State have secondary education. The table also shows us that the group of people who used condom mostly, were the 9.1% tertiary educated with 44.8% of them complying. On the other hand, the least compliant with the use of condom was 16.4% of the 17.4% with no education. The p- value 0.009 in our study analysis confers statistical significance to association between educational coverage and use of condom. This agrees with Sani et al., (2013), who also reported a p- value \leq 0.002 for association between client's educational status and frequency of condom use. There is also agreement with Prata, Vahidnia and Fraser, (2005) that discovered that consistent condom- use was positively associated with higher levels of education. This means lack of education in the population affects the use of condom as prevention negatively; we need to increase literacy in the society for the condom strategy to be effective. Unprotected sex is a predisposing factor to HIV discordance among infected couples, as posited by Tadesse, (2014). The results in Table 1 somewhat agrees with him because the lack of use of condom means unprotected sex and hence the prevalence of discordance in the study population. Table 2 also shows the relationship between education and the frequency of having unprotected sex in the population. A huge number of the study population 240, always practiced unsafe sex while a small portion 77 did safe sex. A look into their educational qualification reveals that 83.6% of people who practiced unprotected sex were from the no- education group while 65.5% who practiced unprotected sex were from the tertiary education group. On the other hand, 34.4% of those who practiced safe sex from the tertiary education group were more than the 16.4% who did same from the no- education group but the p- value 0.404 in Table 2 shows no statistical significance. This means that in the practice of unprotected sex, there is no significant difference whether a respondent is educated or not. It may be significant if we look at it from the protection side or the safe sex angle.

Conclusion

In this study, it was observed that majority 225(71%) of the respondents were Christians, and unemployment rate 224(70.7%) was high; hence joblessness was a dominant feature in the population. The study also revealed that many people did not use condom 230(72.6%) against 87(27.4%) who used condom. This also brought to fore the marked difference between married and unmarried people when it comes to condom usage. The unmarried people adhered to use of condom more than the married ones. Education was also seen to be effective in the attitude of HIV infected people in terms of use of condom. P- Value 0.009 is suggestive of a strong association between client's educational status and use of condom. The study also revealed that there is statistical difference when we study unprotected sex; from when it is protected sex hence the p- value 0.404 when we analyzed the frequency of unprotected sex. Government policies should be channeled towards improvement in educational coverage and educational quality for the population. HIV treatment centers should focus more on strategies that will improve the attitude of infected couples towards use of condom as this will help in the mitigation of the spread of HIV infection in the population.

Abbreviations

HIV, AIDS, STI, LGA.

Declarations

Ethics approval and consent to participate- The study was conducted according to ethical standards for human studies as approved by the research and ethics review committee of the Kaduna State ministry of Health and Human Services. MOH/ADM/744/VOL.1/913. See document here

https://drive.google.com/file/d/1_JnIr30XLQWQVNwVoAZLWY39x2cbg-mB/view?usp=sharing

Informed consent was obtained from all participants to take part in the study, after adequate explanations on the purpose, risk, method and benefit of the research. LINK

https://drive.google.com/file/d/1_uWS7jP01VAPzbf6pmtGcm61afmWKUc6/view?usp=sharing

Consent for Publication- Consent was received from participants. See LINK

<https://drive.google.com/file/d/1eVGyJ7F-QOuDrfrfIN7o9B10PjPHvr0Bs/view?usp=sharing>

Availability of data and materials- The data sets generated and analysed during the current study are available here https://drive.google.com/file/d/1m_8XSLDCB7UV_fmC5qarXAkZbeUAfhLf/view?usp=sharing

Kaduna State Map is available here

https://drive.google.com/file/d/1eyNtIG3tVZLDOazH8nA88lpbhZwWi7_L/view?usp=sharing

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Authors' contributions

Danboyi D.A. conceived the study and participated in its design and coordination.

Sani M.N and Danboyi D.A. conducted the statistical analysis.

Danjuma L and Abdullahi M handled the study review.

All authors read and approved the final manuscript

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Figures

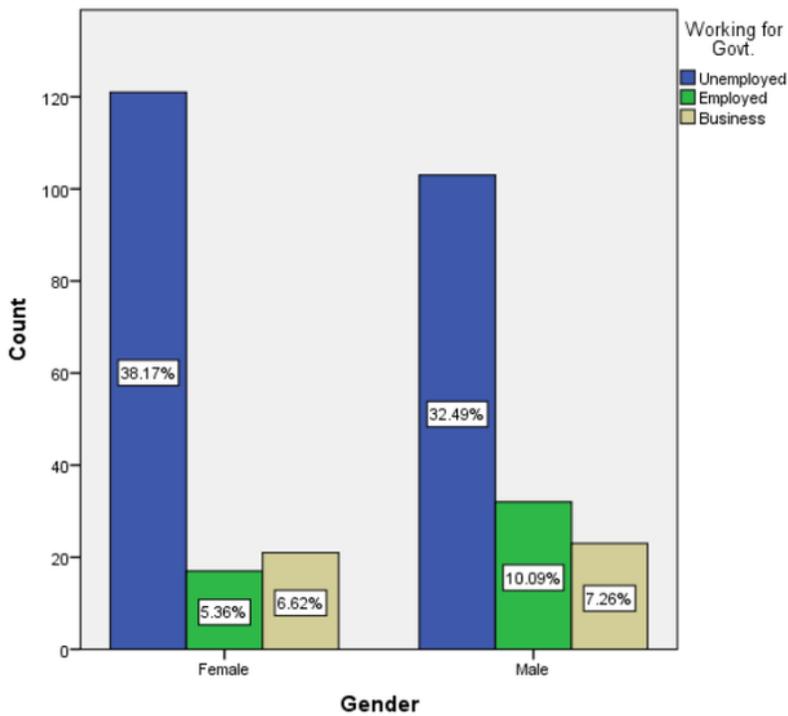
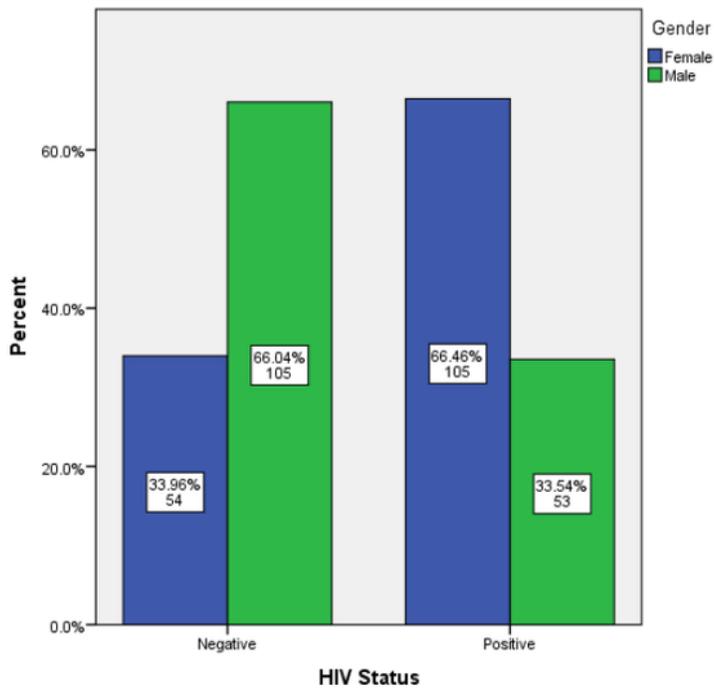
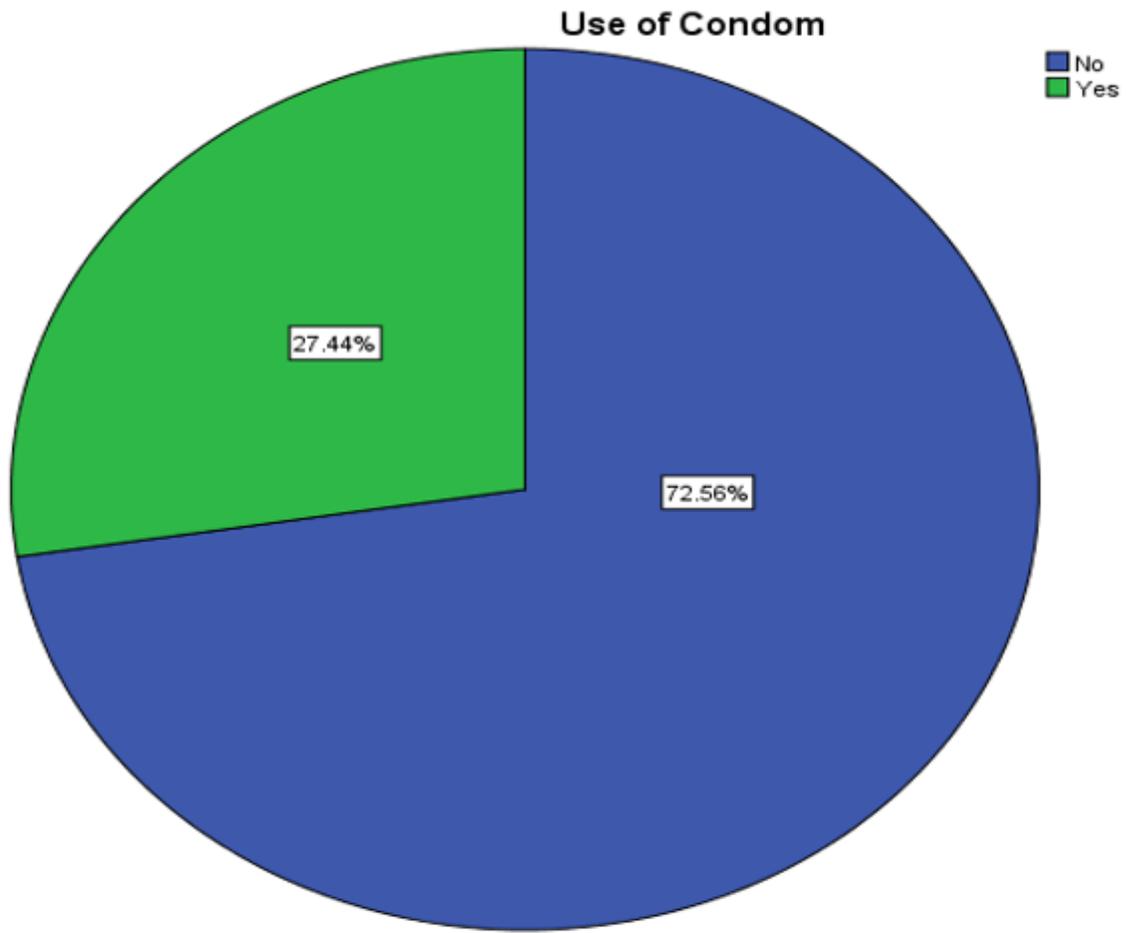


Figure 1

a: Demographic record of Participants (N= 317) b: Demographic record of Participants (N= 317)



Mean= 0.27744 ± SD 0.44694

Figure 2

Distribution of Respondents based on Use of condom (N= 317)