

ORIGINAL RESEARCH ARTICLE

Assessment of Preventive Strategies Compliance Among HIV/AIDS Patients Attending Federal Teaching Hospital Katsina, Nigeria

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A high level of compliance is required to achieve the desired outcomes of treatment among HIV/AIDS patients. There is paucity of information about compliance to preventive strategies in Katsina State of Northern Nigeria. In this study, a questionnaire was developed, validated, and applied to evaluate adherence to prevention strategies in HIV/AIDS patients attending the Federal teaching hospital, Katsina (FTH) in Nigeria using an investigative descriptive study design. The questionnaire was distributed to 303 respondents that were randomly selected out of 1, 250 population of FTH, and all were returned for data analysis. Descriptive statistics, chi-square and t-tests were used to describe the respondent's demographic information, test the main and sub-hypotheses. Results showed. Results showed significantly higher adherence to prevention strategies among HIV/AIDS patients attending FTH, Katsina ($\chi^2 194.55$ df 3 $p < 0.05$). HIV/AIDS patients attending the FTH, Katsina are subject to guidelines for preventing transmission of HIV/AIDS ($\chi^2 2202.939$ df 3 $p < 0.05$). There was also a significant gender-based difference in adherence to prevention strategies among HIV/AIDS patients attending FTH, Katsina ($t 25.690$ df 301, p value 0.000). Among HIV/AIDS patients attending the FTH, Katsina, there was a significant difference in adherence to prevention strategies based on educational status ($t 219.094$ df 302, p -value 0.000). Based on location, there was a significant difference in adherence to prevention strategies among HIV/AIDS patients attending the FTH, Katsina ($t 23.038$ df 301, p -value 0.000). Results from this study shows that HIV/AIDS patients attending Federal Teaching Hospital Katsina significantly adhere to preventive guidelines for curbing the transmission of HIV/AIDS. However to further achieve the desired quality of life improvements for individual subjects and reduce prevalence in the society, concerted efforts are needed to promote compliance to therapy.

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INTRODUCTION

Nowadays, it is worthy to know that, HIV/AIDS spares no professional, racial, or religion group, it attacks actors, actresses, doctors, nurses, laboratory staff, lawyers, teachers, as well as politicians, civil servants, businessmen, sport men and women, and even students, who are leaders of tomorrow. Hence, there is no need as a matter of urgency to create avenue to have knowledge of HIV/AIDS among patients with the view of eliciting positive behavioral change towards the people who were affected with HIV/AIDS and to evolve in health education and promotion in helping to reduce the rate at which this disease is rapidly growing in our society and the country at large (Pratt, 2013).

The presence of human immunodeficiency virus (HIV) can be confirmed by the use of test. If the results are

positive, it means the person is HIV positive, meaning that the person is infected and capable of transmitting it to others (Naswa and Marfatia, 2010). The HIV prevention continuum is a framework that heuristically describes each step in the continuum of HIV bio-behavioral prevention services, including HIV testing, behavioral risk reduction counseling and PrEP uptake, and emphasizes the importance and interconnectedness of each prevention step to decrease HIV acquisition and transmission (McNairy & El-Sadr, 2014). Several studies conducted in different countries have reported non-compliance rates ranging from 50% to 80%. In sub-Saharan Africa, compliance rate varies depending on time and location of studies (Chkhartishvili et al., 2014). One of the studies conducted by Weiser et al, 2003 in Botswana found self-reported and provider assessment compliance rates of 54% and 56% respectively.

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Other studies reported 66% in Uganda 22% in Cote D' Ivoire and 71% in South Africa. In Nigeria, compliance rates from previous studies conducted have ranged from as low as 44% being compliant to more than 95%. For instance, compliance levels of 49.2% was reported in Port Harcourt, 58% in Benin, 62.9% in Ibadan, 44% in Ile-Ijesha, 62.8% in Keffi, north central, 80% amongst children in Kano, and 75.3% in Enugu (Wesser et al., 2003). Evidence-based data from developing countries regarding antiretroviral therapy compliance rates, and the effectiveness of support interventions are still limited most especially in Bayelsa State of Nigeria, hence the need for such investigation. This study aims to evaluate the extent to which patients are adhering to recommended preventive measures to reduce the risk of transmitting or progressing the disease.

The prevalence of HIV/AIDS is a major public health concern, and effective preventive strategies play a crucial role in reducing the spread of the disease and improving the health outcomes of the patients. However, compliance with preventive measures can be challenging, particularly in resource limited settings such as Nigeria (Remian et al., 2007). By assessing the compliance of HIV/AIDS patients attending Federal teaching Hospital Katsina, the study will provide valuable insights into the barriers and facilitators of preventative strategies compliance and inform the development of effective interventions to improve patient outcomes. Given the above background, a study was conducted at a teaching hospital in Katsina to evaluate compliance to prevention strategies in HIV/AIDS patients participating in federal screening.

MATERIALS AND METHODS

Research Design

A post-factor study design was used as this study was a non-experimental study and had no controlled independent variables. This design used a self-developed and validated questionnaire on "Prevention Strategies for HIV/AIDS Prevention and Management Compliance in Patients at Katsina Federal Teaching Hospital."

Population of the Study

This study population comprises of one thousand two hundred and fifty (1,250) patients infected with HIV/AIDS according to the stat obtain from Action Clinic Federal teaching hospital, Katsina at the course of the study in 2021.

Sample Size

A total sample size including both male and female of three hundred and three (303) will be considered adequate for the population which is estimated at over one thousand (1000), according to Lawan, 2016.

A total of 303 respondents therefore formed a sample size for this study where Simple random technique sampling method was employed to select the sample.

Data Collection Tools

A self-developed opened-ended questionnaire; "preventive strategies on HIV/AIDS prevention and control compliance among patients attending Federal teaching hospital, Katsina" was administered to respondents. The questionnaire consisted of three parts: I (respondent's demographics), II (adherence to prevention guidelines to reduce and control HIV/AIDS transmission) and III (exposure to guidelines to prevent transmission of HIV/AIDS). The respondent rated each statement on a four-point modified Likert scale of "Strongly Agree" (SA), "Agree" (A), "Disagree" (D) and "Strongly Disagree" (SD). Answered with 4, 3, 2 and 1 point respectively.

Validity of the Instrument

The questionnaire was checked for external and substantive validity by expert from the department of physical and health education at Bayero University, Kano. Comments, corrections, observations and suggestions were incorporated into the final draft before administration for pilot study.

Reliability of Instrument

A piloted study using patients attending General Hospital , Kano to ascertain the reliability of the instrument was conducted .The data obtained from these questionnaires helps in producing the final draft of the of the instrument and was approved by the supervisor, who is an expert in the field.

Data Analysis

The researchers use frequency count and percentage to organize and describe the demographic information of their respondents. Chi-square was used to test the primary and secondary hypothesis1. Sub-hypothesis 2, 3 and 4 were tested at the significance level of 0.05 using t-test.

RESULTS

Socio-demographic and economic characteristics of respondents

The table below shows the values obtained from the respondents' demographic information which include the gender, age, marital status, location, educational status, occupation and religion.

Table 1: Respondent demographic information (n=303)

	Variables	Frequency	Percentage (%)
Gender	Male	136	44.9%
	Female	167	55.1%
	Total	303	100%
Age	10-30	84	27.7%
	31-50	139	45.9%
	51-70	68	22.4%
	71 and above	12	4%
	Total	303	100%
Marital Status	Single	70	23.1%
	Married	155	51.1%
	Divorced	31	10.2%
	Separated	22	7.3%
	Widower	25	8.3%
	Total	303	100%
Location	Rural	126	41.6%
	Urban	177	58.4%
	Total	303	100%
Educational Status	Tertiary	93	30.7%
	Secondary	143	47.2%
	Primary	67	22.1%
	Total	303	100%
	Occupation	Trader	42
Farmer	47	15.5%	
Student	33	10.9%	
Teacher	25	8.3%	
Driver	4	1.3%	
Security Officer	12	3.9%	
Artisan	58	19.1%	
Civil Servant	50	16.5%	
Jobless	32	10.6%	
Total	303	100%	
Religion	Islam	212	70%
	Christianity	78	25.7%
	Traditional	13	4.3%
	Total	303	100%

Table 2: Descriptive data showing mean scores of the respondents about adherence to preventive guidelines for curbing the transmission HIV/AIDS

Statement	SA	A	D	SD	MEAN
PrEP is highly effective for preventing HIV when taken as prescribed.	134 44.2%	152 50.2%	13 4.3%	4 1.3%	3.3729
Antiretroviral drugs help people living with HIV to live longer and healthier.	147 48.5%	132 43.5%	19 6.3%	5 1.7%	3.3894
Antiretroviral therapy is not a cure for HIV, but help it keeps HIV under control.	132 43.5%	145 47.9%	23 7.6%	3 1%	3.3399

Table 2: Cntinued

Statement	SA	A	D	SD	MEAN
Condoms are very effective in preventing HIV and sexually transmitted disease such as gonorrhea and Chlamydia.	128 42.2%	142 46.9%	22 7.3%	11 3.6%	3.2772
PEP is a medicine to take to prevent HIV after possible exposure to HIV virus.	145 47.9%	110 36.3%	35 11.5%	13 4.3%	3.2772
Average mean					3.3313

Table 3: Descriptive data showing mean scores of the respondent’s exposure to guidelines for preventing the transmission of HIV/AIDS

Statement	SA	A	D	SD	MEAN
The risk of transmitting HIV/AIDS virus can be reduced by the use condoms.	166 54.8%	118 38.9%	14 4.6%	5 1.7%	3.4686
HIV/AIDS virus transmission can be reduced by having only one sex partner.	132 43.6%	133 43.9%	31 10.2%	7 2.3%	3.2871
Getting and keeping undetectable or low viral load helps you to stay safe and protect others.	133 43.9%	140 46.2%	28 9.2%	2 0.7%	3.3333
HIV is spread through infected sexual fluids, breast milk and blood.	134 44.2%	144 47.5%	20 6.6%	5 1.7%	3.3432
Taking HIV medicine regularly as prescribed by the doctor helps to reduce one’s viral load.	156 51.5%	120 39.6%	24 7.9%	3 1%	3.4158
Average mean					3.3696

Table 4: Table Showing the Observed and Expected Frequency

Response	Observed No	Expected No	Residual
Strongly Agree	137	76	61
Agree	136	76	60
Disagree	22	76	-54
Strongly Disagree	8	75	-67

Table 5: Chi-square showing if there is preventive strategy compliance rate among HIV/AIDS patients attending Federal teaching Hospital Katsina

Variable	df	t value	p-value	Significant Status
Response	3	194.55	*0.000	Significant

*significant at p0.01 **significant at p0.05

Table 6: Table showing observed and expected frequency

Response	Observed No	Expected No	Residual
Strongly Agree	144	76	68
Agree	131	76	55
Disagree	23	76	-53
Strongly Disagree	5	75	-72

Table 7: chi-square showing if HIV/AIDS patients attending Federal teaching Hospital, Katsina are exposed to guidelines for preventing the transmission of HIV/AIDS.

Variable	Degree of freedom	Test value	p-value	Significant Status
Response	3	202.939	*0.000	Significant

*significant at p0.01 **significant at p0.05

Table 8: t-test Showing difference in the preventive Strategies compliance among HIV/AIDS patients attending Federal teaching Hospital, Katsina based on gender.

Gender	No	Mean	S.D	df	Calc. t-value	p-value
Male	138	2.76	0.46	301	25.690	0.000
Female	167	3.86	0.27			

Table 9: Analysis of Variance showing difference in adherence to prevention strategies among HIV/AIDS patients attending Federal teaching Hospital, Katsina based on educational status.

Source	Df	SS	Mean Square	Cal. F-value	p-value
Between Groups	2	78.427	39.213	219.094	0.000
Within Groups	300	53.694	0.179		
Total	302	132.121			

Table 10: t-test Showing difference in the preventive strategies compliance among HIV/AIDS patients visiting Federal teaching hospital, Katsina base on location

Location	No	Mean	S.D	d.f	Calc. t-value	p-value
Urban	177	3.81	0.33	301	23.038	0.000
Rural	126	2.72	0.47			

DISCUSSION

The study investigated assessment of preventive strategies compliance among HIV/AIDS patients attending Federal teaching hospital, Katsina. The outcome of the study revealed that HIV/AIDS patients attending Federal Medical Centre Katsina complies with HIV/AIDS preventive strategies. Statistical computation indicated x2value of 194.55 at p>0.005. Sten Vermund (2014) who studied strategies in prevention and care concluded that among HIV prevention strategies, current effort to expand testing, link effective care, and adherence antiretroviral therapy are termed treatment as prevention (TasP). TasP holds high hopes that those who receive

early treatment will reap clinically significant benefits and that the lower infectivity will reduce. The statistical computation indicated x2 value of 202.939 at p>0.005. Rudolph et al, (1998q) concluded that the state of the art techniques used to develop clinical guidelines, including consensus, can also be used to adapt these guidelines to local conditions. Semantic analysis shows that tailoring preserves structure but can lead to significant changes in clinical care processes.

Also, this findings shows that there are significant differences in the preventive strategies compliance among HIV/AIDS patients attending Federal teaching hospital, Katsina based on gender. The statistical computation

indicated t value of 25.690 at $p > 0.000$. Turmen, (2003) studied Gender and HIV/AIDS and concluded that adolescent girls and women are prone in contracting HIV infection than men.

And also, the results revealed that there are significant difference in the preventive strategies compliance among HIV/AIDS patients attending Federal teaching hospital, Katsina based on educational status. The statistical computation indicated t value of 219.094 at $p > 0.000$. James, & Judith (2002) study shows that uneducated people are at higher risk of HIV-1 infection than educated people.

Finally, the finding also shows that there are significant differences in the preventive strategies compliance among HIV/AIDS patients attending Federal teaching hospital, Katsina based on location. The statistical computation indicated t value of 23.038 at $p > 0.000$. Tim Dyson (2004) concluded that the rate of HIV prevalence tends to be high in urban areas. He added that there are signs that HIV/AIDS is slowing the pace of urbanization among people in the hardest-hit regions of East and South Africa. Part of this is due to the differences between increased mortality in urban areas and decreased mortality in urban areas. And he ultimately concluded that in a country like South Africa, where infections rates are very high and fertility rates are relatively low, urban areas will soon become "population sinks" with mortality rates exceeding fertility rates.

CONCLUSION

Based on the results of this study, the following conclusions were drawn:

1. HIV/AIDS patients attending Federal Teaching Hospital Katsina significantly adhere to preventive guidelines for curbing the transmission of HIV/AIDS.
2. HIV/AIDS patients attending Federal Teaching Hospital Katsina are exposed to the guidelines for preventing the transmission of the infection.
3. There is an apparent difference in the preventive strategies compliance among HIV/AIDS patients attending Federal Teaching Hospital Katsina base on gender.
4. There is big difference in the preventive strategies compliance among HIV/AIDS patients attending Federal Teaching Hospital Katsina base on educational status.
5. Also, there is difference in the preventive strategies compliance among HIV/AIDS patients attending

Federal Teaching Hospital Katsina base on location.

RECOMMENDATION

Its highly recommended that a continuous surveillance should be put into practice by respected bodies to checkmate the level of compliance of HIV/AIDS patients to respectful guidelines for management of the disease.

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