RECENT SEXUAL ACTIVITY, HIV/AIDS RISK AND CONTRACEPTIVE USE IN NIGERIA: INSIGHTS FROM PLATEAU STATE

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Abstract

This study explored recent sexual activity and the risk of HIV transmission between 2003 and 2018 in Plateau State, Nigeria. Mixed methods approach was deployed in obtaining National Demographic and Health Survey that extracted dataset on Plateau state and analysed using chi-square test and multivariate logistics regression. The outcome of the survey analysis informed in-depth interviews that provided evidence on the reasons for the high-risk sexual behaviour. Female dominated the study (>68.3%) and over half (51.0%-76.5%) were aged group 25 years and above. Over three in five of the study participants were married (> 60.3%), with the majority resident in a rural setting (>60.2%). The proportion of those with high education increased from 7.3% in 2003 to 58.3% in 2013 and to 53.9% in 2018. High-risky sexual behaviour was 2.5 times among male respondents than in females (AOR=2.5; 95% CI =1.70-5.78; p=0.000). Those aged 25 years and above were over 5 times at risk of engaging in recent sexual activity associated with HIV than those aged 15-24 years old (AOR=5.46; 95% CI =2.39-7.55; p=0.000). Furthermore, the likelihood of contracting HIV among those willing to buy vegetables from vendors living with HIV/AIDS was 3 times more likely (AOR=3.19; 95% CI =1.51-6.28; p=0.021) than those who were unwilling. Factors related to gender inequality in sexual relationship and shallow knowledge of HIV were the root causes of the risky behaviour. Sustainable HIV prevention efforts in Plateau state requires a multilevel intervention programme that focuses on gender equality in sexual relationships and educate men on the long-term negative impact of their risky sexual behaviours.

Key words: Recent Sexual Activity, HIV/AIDS, HIV Risk, and Plateau state

1. INTRODUCTION

HIV prevention, treatment and access to care is crucial in the achievement of the Sustainable Development Goals (SDGs) and the African Union (AU) Agenda 2063: The Africa We Want, which is Africa's development blueprint to achieve inclusive and sustainable socioeconomic development. Although treatment and access to care have improved, prevention remains critical to ending new HIV infections by 2030 (Rapaport et al., 2023). HIV/AIDS is a leading public health challenge that caused an incurable disease that led to deaths across Sub-Saharan Africa in the last decades (WHO, 2020). The current prevalence of the virus among adults in Nigeria is relatively low compared with other countries in Southern Africa. However, the sheer size of its population means that it is one of the countries with the most people infected with HIV globally (UNAIDS, 2019). Within Nigeria, there are strong disparities in the rates of new HIV infections within and between states that reflect changes in the spatial epidemiology of the virus (Granich et al., 2015). In 1996, Plateau State was at the centre of Nigeria's HIV/AIDS epidemic, when it experienced the highest infection rates in the country, at 11% (Federal

Ministry of Health - FMoH, 1996). Although the virus initially spread to surrounding states, by 2001 the infection was declining in Plateau State. Even more encouragingly, the populations experiencing a reduction in the HIV rates were children, women, and the most-at-risk subgroups, such as sex workers (NACA 2015; Ogbe et al. 2014; Imade et al. 2014; Gomwalk et al., 2012). However, the infection rate was on the rise in neighbouring states. Lately, the experience indicates slow decrease that remain higher than in Plateau State and above the national average (Bashorun et al., 2014; FMoH, 2019; Obidoa & Cromley, 2012). To understand the HIV risk situation, this study adopted a mixed methods approach to triangulate evidence-based outcome in the prevention of the risky sexual behaviour and HIV infection.

In sub-Saharan Africa (SSA), it is well known that heterosexual intercourse is responsible for over 90% of the risk of exposure to HIV infections (Lurie & Rosenthal, 2010; UNAIDS, 2012). This risky behaviour influences the possibility of contracting HIV and other Sexually Transmitted Infections (STIs) from people in sexual networks (Boily et al., 2009). HIV, being a disease with multiple modes of transmission, relies on sexual contact with an infected person and those at risk for it fast acquisition or transmission (Haggett, 2000; Sadikov et. al. 2011). Moreover, as the number of persons in the sexual network is larger and increasing, so is the risk of HIV transmission within it (Potterat et al., 2005). The acquisition or transmission of the virus is also highly dependent on sexual activity with high risk of exposing one to infection (Kalam, 2010; Randal & Byers, 2003). Boily et al., (2009) reported that per sexual act with a risky person increases the chance of contraction or transmission, regardless of whether ejaculation occurs (Jin et al., 2010). The risk arises because the acute phase of the infection is immediately after the virus has been contracted, which replicates itself rapidly and repeatedly, resulting in a significant amount of HIV in the blood that subsequently weakens and attacks the blood cells that provide defence against intruders to the body (Brenner et al., 2007; Hollingsworth, 2008; Patel et al., 2014; Pilcher et al., 2004;).

Most studies examined sexual behaviour on whether a respondent has had sex in the last 12 months before the surveys were conducted (Agaba et al., 2016; Envuladu et al. 2017ab; Egbodo et al.; 2022; John, et al., 2012; Slap et al., 2003;). However, engaging in frequent sexual intercourse, especially when a condom is not used or a partner is already infected, heighten the risk of HIV transmission (Boily et al., 2009). Yet, frequent involvement in sexual intercourse as an indicator of being sexually active has not been well researched (Aisha et al., 2017; Johnson et al., 2001, Ueffing et al., 2019). Though sex has a positive impact on human life (Allen, 2018), the risk exposure in which the behaviour is expressed, increases, or reduces the chance of a person transmitting or acquiring HIV. The risk increases with condom use is inconsistent, as much as its neglect (Ahmed, 2001). HIV risk of infection increases with increased in age. Older people engage in sexual relationships without the use of a condom more

often than those who are younger in age (Balkus et al., 2015) and this is also responsible for the spread of HIV in sub-Saharan Africa settings (Halperin & Epstein, 2004). Studies have found that wives' menopause and postpartum abstinence made many women turn down husbands' sex advances, and having been used to sex, most men seek to satisfy their sexual craves outside (Morrison-Beedy & Passmore, 2013; Zhou et al., 2014) in most case, condom is often not used (Beauclair et al., 2012). Married women become infected with HIV by their husbands and are diagnosed only when seeking healthcare during pregnancy (Cohen & Reid, 1999). Knowledge about HIV and AIDS is a powerful way of fostering a positive and healthy attitude to safe behaviour as lack of knowledge is responsible for increased risks of HIV infection, stigma, and discrimination (Herek et al., 2002).

Comprehensive knowledge about HIV requires awareness that a healthy-looking person may have HIV, and knowledge of someone who died of AIDS increases both personal risk perception and HIV prevention behaviour (Green & Witte, 2006; Muchini et al, 2011). The literature establishes that people who consider themselves at low risk of HIV are less likely to use protection during sex (Lammers et al., 2013; Sewell & Blankenship, 2018; 2017). Inadequate knowledge of HIV/AIDS leads to misconceptions about the cause and method of prevention of the virus (Tenkorang, 2013) and associated with stigmatising and discriminatory attitude toward people with AIDS (Beyene & Beyene, 2015; Stang, et al., 2019).

Against the above milieu, studies on the trend of recent sexual activity associated with risks of HIV in Plateau State are limited. Moreover, most available studies on sexual behaviour on Plateau state focused largely on adolescents (Agaba et al., 2016; Envuladu, et al., 2013, 2017ab, 2021; Dongurum, et al., 2009, 2010; John et al 2012; Slap, et al., 2003). The studies were one-time surveys and largely based on qualitative studies, with none that looks at both the trends of sexual behaviour and narratives on personal realities experienced to aid in the monitor patterns of risk associated with HIV. It is in this context that this research is situated to thoroughly explore the patterns over the last decades and stories on the perspectives of sexual activity to understand the risk of HIV situation (McCabe et al., 2013) in Plateau State. The study hopes to contribute new knowledge about the trend in the risk of recent sexual activity in Plateau State, with the aim of understanding the broader context within which to formulate policy, design, and implement appropriate prevention and interventions that address the root causes.

2. MATERIALS AND METHODS

Study Area

The study area is Plateau state, Nigeria.

Methods

The study utilized the mixed method to explore participants views, experiences, and feelings on recent sexual behaviour and risk of HIV infection (McCabe et al., 2013; Raskind et al., 2019). The quantitative data for 2003, 2008, 2013, 2018 were collected from National Demographic Health Surveys (NDHSs), Plateau State. The surveys datasets are the four recent series for obtaining demographic and health information relating to sexual behaviour, health, and HIV/AIDS in Nigeria. The sampling approaches in the surveys gave every man and woman in their reproductive age equal opportunity of being selected. The representativeness of the target population in a combined multistage, systematic, and stratified-random sample, significantly validates the generalisability of the research results (Mertens, 2013; NPC & ICF 2014, 2018). Thus, 302, 1404, 1265, and 1090 cross sectional samples were apt and established from the four survey data sets. The data collected, and variables were re-organised for harmony across the four surveys and new ones created by combining some of the original variables in generating new ones that addressed the study purpose (Ghebremichael et al., 2009; Jarin et al., 2015). Sexual activity in the last four weeks, implies being sexually active; response on a person has engaged in recent sexual activity, beyond the usual experience that surveys seek on the last twelve months (Erinosho et al., 2013; Smith, 1992; Schroder et al., 2003)

The qualitative research seeks to understand human behaviour and the dynamic surrounding real-life phenomenon and drawing meaning from a real-world setting, where the researcher does not attempt to manipulate the phenomenon of interest (Patton, 2002; Raskind et al., 219). The opinions and feelings experienced and flexibly expressed by a participant are useful evidence for insight in to the context in which a social phenomenon occurring in a setting (Strauss &Corbin , 2014; Silverman, 2015).This study utilised the qualitative method for its premise on interpretivist worldview that obtained accounts on prevailing social and sexual activities that made sense into understanding people's perceptions and experience on 'how' or 'why' the phenomenon occurred (Bell, 2014). Hence, Individual Interview and Key Informants Interviews are used for the collection of data that explain the outcomes of significant statistical models in the study .

Qualitative data

On qualitative sampling, HIV/AIDS prevalence characterisation in Plateau State informed the selection of study communities. Two Local Government Areas (LGAs), Jos North and Shendam were selected for their high HIV prevalence in the State. Two localities, one urban

and one rural were further case selected. In Jos North LGA, Tudunwada and Angwan-Rimi were selected, while Shendam LGA has Shendam town and Kuka as study communities. Interview participants were selected purposely, using a snowball or chain strategy; having met the inclusion criteria of being above the age of 18 years old; married or unmarried; have lived in the community for up to a year, and familiar with the social realities in their setting. Participants sampled referred the researcher to another person. The chain of referral was carefully handled to avoid dominance of same characteristics in the qualitative approach. The approach was helpful in the identification and selection of appropriate participant that were interviewed.

Those living with HIV/AIDS and attending HIV/AIDS clinic were also selected. The participants selected were conversant with sexual practices and HIV/AIDS situations in their communities and were willing to share their personal experiences in relation to the study context to assist construct knowledge. The Key informants selected involved Programme or Project, Monitoring and Evaluation Officers, Social and Community Leaders, who were actively or previously involved in HIV/AIDS, sexual and reproductive health and related activities in the selected communities were each selected. In all the selected communities, 12 participants each were drawn and volunteered relevant experience and opinions aided in addressing the study objectives.

Prior to the interview, the participants' were contacted and given details about the study and Research Information Sheets (in English and Hausa). Those who cannot read, the research documents were read and explained to their satisfaction. Having accepted to participate in the study, participants' consents were sought, having accepted, they were each assured that any information that may lead to identifying them were anonymised. The commitment in protecting the rights of, and personal details of the study subjects represented best research practice of confidentiality and privacy in undertaking a sensitive study (Creswell & Creswell, 2018). The participants were confident and relaxed enough in their consent and freely shared their narratives relevant to the research purpose. The researcher used questions on recent sexual practices, use of condom, gender and sexual activity, HIV/AID awareness, belief, and practice, and HIV perceived risk for the interview.

Creswell and Creswell (2018) emphasised that this procedure is legitimate in data collection, as open-ended questions are used in engaging participants in fruitful talks. In such contexts, important verbal and non-verbal expressions were noted, as broader patterns of issues emerging from the discussions are observed and classified to account for the implications of an existing

social phenomenon (Schwandt, 2014; Rallis & Rossman, 2012). The conversations were audio recorded, as interviewees expressed their social realities and opinions on the contextual sexual behaviour raised. This study is aware of the tensions associated with conducting interview in a sensitive study like this. As such, interviews were considered most appropriate, and ensured the rights and protect personal information of participants, who may not be free to share in the presence of a third party. Even married people who agreed to provide information were interviewed separately for tensionless atmosphere to freely express themselves.

Methods of Data Analysis

Microsoft Excel 2020 and Statistical Package for Social Sciences (SPSS) version 28 aided the survey data management. Earlier in the data analysis, variables relevant to the research were identified and extracted from the large database. This was edited, used for the construction of new variables and codes were assigned to each. The statistical process provided not only a detailed account of the background information on the recent sexual activity, but also association that compared variables relevant to the study. The descriptive, Chi-Square Test - the crude risk ratio (CRR), and Multivariate Binomial Logistics Regression Model were deemed the most appropriate statistical techniques used. The Chi-Square Test shows the CRR relationships between recent sexual activity and background characteristics. Categorical data whose variables are dichotomous, each takes the values 0, showing no risk occurred for the independent variables and 1 if sex in the last four week has risk of HIV transmission. The dependent variable shows a person is at 'high-risk' of HIV if he/she was sexually active in the last four weeks, did not used a condom at their last sexual encounter. In comparison, if a person ever had sex, used a condom at their last sexual encounter were described as 'low risk'. The multivariate analysis predicted the likelihood of engaging in HIV high-risk recent sexual activity. Moreover, each explanatory or independent variable has a reference category that serves as a standard variable for gauging sexual behaviour and the risk or factor of HIV transmission.

Evidence of a statistical relationship between the dependent (outcome) variable and the independent (explanatory or predictor) variables means that the predictor usually is non-linear (s-shaped). The logistic regression model estimates the likelihood. Thus, the result is an exponential function of the independent variables (Leavy, 2017). Survey data obtained and rigorously organised were built-in in the model equation as follows:

$$\text{Logit (p)} = \text{a}_{+}b_1X_{1+}b_2X_{2+}b_3X_{3+} \ldots\ldots\ldots\ldots b_nX_n$$

Where:

- Logit (p) = The log of the odds of the dependent variables (High-risk sexual behaviour in the last four weeks) coded 1,

- a = the intercept

- $b_1,\ b_2,\ b_3\ \ldots\ldots\ldots b_n$ = The regression coefficients, and

- $X_1, X_2, X_3 \ldots\ldots\ldots X_n$ = Represents independent covariates (the significant background characteristics of the study population). The outcomes of the multivariate logistic regression modelling have been presented as an Odds Ratios (OR) at a 95% Confidence Interval (CI).

The multivariate analysis simultaneously uses more than one explanatory or independent variable to predict the effect of a dependent variable. The analysis concurrently used the socio-demographic characteristics and awareness on HIV/AIDS to estimate the effect of the dependent variable to determine the probability that a person engaged in a sexual behaviour that exposed him/her to HIV infection in Plateau state. The multivariate analysis outcomes are interpreted in terms of the 'Adjusted Odd Ratio' (AOR) associated with the p values at 0.05 significance. The AOR accounts for the factors that influenced the chance of exposure to the risk of acquiring or transmitting HIV. The statistically significant outcomes of survey vigorous analysis model informed the need for interviews that explored the personal narratives on the recent sexual experiences for insight into the root causes of behaviour that increase risky of HIV transmission .

After all the interviews were concluded, the audio recordings were listened to. The playback of the interviews helped to identify the emerging issues. Subsequently, interviews were grouped in separate folders and files based on the nature of participants and according to the communities from where they were obtained. This was followed by the transcription of the interviews obtained in English, Hausa, and Pidgin into English. The process involved listening repeatedly to each audio recording, typed into text or word document. The transcribed texts were inputted into a qualitative data analysis software, Nvivo 11. The tool facilitated the coding of words and phrases for each section of the interview guides. The sections in the guides consisted of: (i) participant profile, (ii) sexual behaviour (iii) HIV/AID awareness, beliefs, and practice, (iv) gender, sexuality, and marital experience. The coding was useful in the organisation of robust textual information that addressed the study objectives by identifying emerging themes that provides explanations on the significant predictors of sexual activity and HIV, which the survey data result requires narratives on personal experiences and inform of the exact quotes relevant to outcomes. The relevant illustrative quotes extracted based on identified themes were triangulated with significant statistical model results as evidence of

existing social reality to understand the dimensions surrounding recent sexual activity and risk associated with acquiring or transmitting HIV in Plateau State.

RESULTS AND DISCUSSION

The quantitative outcome of the study is presented in Tables, followed by the themes that emerged from the qualitative phase. Table 1 shows that the females (>68.3%) and over half (51.0% -76.5%) in age group 25 years and above had sex four weeks before the surveys. Over three in five participants were married (>60.3%) among which majority (>60.2%) were resident in a rural setting. The proportion of those who practiced Christianity predominated (> 75.5%). Although the proportion of those who had higher education was initially low, there was an increase from 7.3% in 2003 to 58.3% in 2013 and slightly decreased to 53.9% in 2018. Between 2003 and 2018, the proportion of respondents from rich households reduced by 16.7%, poor household members increased doubled between 2008 and 2018. Self-perceived risk about how healthy person could have HIV declined by half by the 2018 survey, despite a steady high view that a married woman can request for condom during sex if her spouse has sexually transmitted disease. The proportion of respondents who had discriminatory attitude toward people with HIV/AIDS substantially increased by 25.2% between 2003 and 2018 (Table 1).

Table 1: Background Characteristics of Study Respondents

Background Characteristics	2003 (N=302)	2008 (N=1404)	2013 (N=1265)	2018 (N=1090)
Sexually active during the last four weeks				
Yes	40.3 (121/300)	45.8 (576/1258)	42.8 (542)	59.4 (647/1089)
No	59.7 (179/300)	54.2 (682/1258)	57.2 (732)	40.6 (442/1089)
Condom use at last most recent sex				
Yes	21.9 (47/215)	6.3 (60/946)	15.4 (129/836)	4.5 (41/913)
No	78.1 (168/215)	93.7 (886/946)	84.6 (707/836)	95.5 (872/913)
Sexually Active and HIV Risk				
Low	64.9 (190)	61.0 (856)	61.1 (773)	57.9 (631/1089)
High	35.1 (106)	39.0 (548)	38.9 (492)	42.1 (458/1089)
Gender				
Male	60/301 (19.9)	31.7 (445)	31.1 (393)	17.9 (195)
Female	241/301 (80.1)	68.3 (959)	68.9 (872)	82.1 (895)
Age group				
15-24	40.1 (121)	49.0 (688)	37.5 (475)	21.5 (230/1070)
25 +	59.9 (181)	51.0 (716)	62.5 (790)	78.5 (840/1070)
Married status				
Unmarried	39.7 (120)	36.3 (510)	32.9 (416)	18.4 (201)
Married	60.3 (182)	63.7 (894)	67.1 (849)	81.6 (889)
Place of Residence				
Rural	72.5 (175/241)	78.4 (1101)	77.6 (283)	60.2 (831)
Urban	27.4 (66/241)	21.6 (303)	22.4 (982)	23.8 (259)
Religion				
Islam	18.3 (55/301)	15.9 (220/1388)	25.6 (308/1204)	265/1080 (24.5)

	Christianity	81.7 (246//301)	84.1 (1168/138)	74.4 (896/1204)	815/1080 (75.5)
Education level					
	None	52.7 (129/245)	35.4 (497)	24.1 (304)	20.3 (221)
	Primary	40.0 (98/245)	17.2 (242)	17.6 (223)	26.3 (287)
	Secondary/Higher	7.3 (18/245)	47.4 (665)	58.3 (734)	53.4 (582)
Employment status					
	Unemployed	28.6 (86/301)	46.8 (654/1396)	35.3 (442/1252)	18.1 (197)
	Employed	71.4 (215/301)	52.2 (742/1396)	64.7 (810/1252)	81.9 (893)
Wealth Index					
	Rich	37.4 (113)	17.7 (249)	28.8 (364)	20.7 (226)
	Middle Class	18.5 (56)	59.8 (839)	48.2 (610)	19.6 (214)
	Poor	44.1 (133)	22.5 (316)	23.0 (291)	59.6 (650)
A Healthy-Looking Person can have AIDS					
	Yes	59.3 (179)	62.0 (870)	63.5 (803)	55.6 (606)
	No	21.5 (65)	10.1 (142)	13.0 (165)	14.4 (157)
	I Don't Know	19.2 (58)	27.9 (393)	23.5 (297)	30.0 (327)
Wife justified Asking husband to use condom if he has STDs					
	Yes	71.5 (216)	78.8 (1107)	65.7 (831)	76.0 (828)
	No	15.2 (46)	11.4 (160)	20.4 (258)	22.9 (250)
	I Don't Know	13.2 (40)	9.8 (137)	13.9 (176)	1.1 (12)
Would buy vegetables from vendor with AIDS					
	Yes	28.1 (85)	45.8 (643)	53.7 (679)	53.3 (581)
	No	68.9 (208)	39.9 (560)	27.3 (345)	32.8 (357)
	I Don't Know	3.0 (9)	14.3 (201)	19.1 (241)	13.9 (152)

Table 3 presents the pooled results of multivariate logistic regression modelling of recent sexual risk of HIV transmission between 2003-2018 in Plateau State. The model controlled for the confounding effects of each of the selected variables and the adjusted relative risk ratios.

The results reveal that the odds of engaging in high-risky sexual behaviour among male respondents was 2.5 time the odd ratio in females (AOR=2.5; 95% CI =1.70-5.78; p=0.000). In addition, those age 25 years and above were about 5 times more likely than younger

Table 3: Adjusted Odd Ratio likelihood of HIV High Sexual Risk

Background Characteristics		AOR (95% CI)	P-value
Survey years			
	2003		
	2008	0.85 (0.60-1.24)	0.217
	2013	0.81 (0.67-1.06)	0.030*
	2018	0.61(0.49-0.77)	0.000**
Gender			
	Female	1.00	
	Male	2.51 (1.7-5.781)	0.000**
Age group			
	25+ years	1.00	
	15-24 years	5.46 (2.39-7.55)	0.000**
Married status			
	Married	1.00	
	Unmarried	0.09 0.07=0.11)	0.000**
Religions			
	Christianity	1.00	
	Islam	1.20 (1.10-1.43)	0.042*
Place of residence			
	Rural	1.00	
	Urban	1.14 (0.98-1.32)	0.082
Education Level			
	No education/Primary	1.00	
	Secondary/Higher	1.16 (1.00-136)	0.054*
Employment Status			
	Unemployed	1.00	
	Employed	0.80 (0.68-0.95)	0.009**
Wealth Index			
	Poor/Middle Class	1.00	
	Rich	0.92 (0.76-1.11)	0.391
A healthy-looking person can have HIV/AIDS			
	No	1.00	
	Yes	0.91 (0.79-1.11)	0.227
Wife justified asking husband to use condom if he has STD			
	No	1.00	
	Yes	1.34 (1.16-154)	0.000**
Would buy vegetables from vendor with HIV			
	No	1.00	
	Yes	3.19 (1.51-6.28)	0.021*

respondents aged 15-24 years old (AOR=5.46; 95% CI =2.39-7.55; p=0.000) to be at risk of high-risk sexual behaviour of transmitting or acquiring HIV through high-risk sexual behaviour. Furthermore, the likelihood of contracting HIV through high-risk sexually active

behaviour was 3 times more likely (AOR=3.19; 95% CI =1.51-6.28; p=0.021) among those who were willing to buy vegetables from vendors living with HIV/AIDS and those who were unwilling. Whereas, in 2013 risk of HIV transmission through high-risk sexual behaviour reduced by 19% and by 39% in 2018. Unmarried respondents and people who were employed were less likely to engaged in high-risk sexual behaviour in the last four weeks (Table 3).

PERSONAL REALITIES OF HIV RISKY BEHAVIOUR AND HETEROSEXUAL DECISIONS

A qualitative study explores the root causes of likelihood for people in Plateau state to engage in high-risk sexual activity that exposes one to contracting or transmitting HIV based on the statistically significant multivariate logistic regression analysis. As highlighted earlier, the men, older respondents aged ≥25 years and those who were unwilling to buy vegetable from vendors living with HIV/AIDS were reported at high risk of transmitting or acquiring HIV (see Table 3). These statistically significant outcome necessitated in-depth discussions with the study participants for explanations on specific characteristics found to have predicted the likelihood of exposure to the risk of HIV transmission in Plateau state. in (or encounter with those) their older age group reveals that the adventure for new sexual experiences and unfulfilled sexual relationships with their spouses or partner with whom they lived for years explains why they engaged in HIV high-risk sexual behaviour.

Regardless of the status of a relationship, men were said to often assume, by default, to take the leading role or the dominant position in the relationship. Consequently, this feeds into how a relationship runs, as men often demand for sex to satisfy their sexual drive who often less considered the opinion of the female partner. Such dominance makes the men engaged in sex without the use of protection, A women share her view thus:

> "*This is a man's world. He cannot accept no to a sex demand and so, a woman's view is less important even when it relates to her right to sexual and reproductive health. If she asks for a condom, he judges her for suspecting him on promiscuity… and so women trust the authority of their husband and would not question what he does with other women outside the union*" (Urban, married female 52 years old)

Quest for new sexual experience, Masculinity and sex sensation seeking

Older adults remain sexually active as they grow in age. The desire differs, depending on a person's health status. Men and women maintain a strong sexual desire at an older age (Zhou *et*

al., 2014; Trompeter et al., 2012; Kelly et al., 2003). As such, they engage in sex with younger people or multiple partners as an adventure involving the seeking of new experiences and independence. Moreover, they often do not use condoms in their sexual encounters. A participant narrated a romantic relationship he had with an older woman, which indicates that some older women seek new sexual intimacy and independence to explore an experience they think is better than the societal norms that subjected them to their spouse.

> *"I have a sugar mama who was in her late fifties. She often comes for holiday and business trips here. On each arrival, she invites me over to her hotel room, where we live and made love until she completes her activities and would be returning… she appreciates how I treat her more than her spouse does".*
>
> (Unmarried male, 31 years old).

Another participant shared his experience on why he goes for a woman much younger than his wife, as sex with her was no longer exciting:

> "*Sex with my wife is just like taking the same meal again and again all the time, which becomes boring. I go to blend it with a new and fresh one*".
>
> (Married male, 52 years old).

The need for sexual sensation is a common trait among most men (Wade et al., 2013). This quest for a thrilling experience often blinds them to the risk of sexual and reproductive health consequences, thereby increasing risky sexual behaviour as using a condom or seeking to know the HIV status of a partner becomes less of a concern. Indeed, one participant was of the view that using a condom renders the experience unnatural:

> *"Eating chocolate in a wrapper does not give its sweet taste. Remove the cover; you enjoy the fat-bloom chocolate".*
>
> *(Urban, unmarried male, 31 years old).*

Older people who are experienced and have resources represent an attraction to many younger people. As such, transactional sex between an older and younger person has become more prevalent. In a quest for modernity, most young women used their sexuality as a resource for economic gain:

> *"Men are easily attracted to a beautiful flower, (young lady) who usually come, or they see, and give them open check of promises to support in any way. Many of the girls of my age, now have cars and houses built for them, apart from regular financial support they receive from the men. I see this as a good prospect for having sugar daddies give what they like and get what I want for beautiful outlook".*
>
> (Urban, unmarried female, age 32 years old)

In his late 50s, a participant shares the view that he has worked hard and acquired wealth and it is now he needs to enjoy the fruit of his youthful investments with what gives him pleasure, which he described as:

> *"Many men in their later age in life have saved much money and are now wealthy because they control resources as politicians, managers or owners of businesses who travel a lot. They often do not travel with their wives and as they meet with colleagues and socialise, they go for girls who are much younger for pleasure they did not have while making investments here and there. When you have money, you get what you want... from beautiful girls willing to provide the services in return for financial benefits".*
>
> (Urban, married male, 58 years old).

The position of older people exploring new sexual encounters and independence in a sexual relationship is consistent with the findings that sex outside a primary relationship is driven by fun (Ranganathan, et al., 2018; Smith, 2007). These forms of sexual relationship often result in the lack of condom use (Beauclair et al., 2012) and studies have found that this pattern of behaviour is responsible for HIV spread in many sub-Saharan African countries (Halperin & Epstein, 2004). Moreover, because older people have accrued wealth over time, young people can be drawn into sexual relationships for their material benefit, without attention to the risk of HIV infection (Morrison-Beedy & Passmore, 2013). The findings further revealed men's displeasure over unmet sexual desires due to the ageing of their spouse. A similar experience in recent studies among the Yoruba men and women by Agunbiade and Gilbert, (2020, 2023) and Chinese men by Zhou *et al.*, (2014) reported the preponderance of unprotected sex with multiple partners.

Lack of Comprehensive HIV Awareness and HIV/AIDS denialism

The attitude and behaviour that unfairly attributes blame and judges people with certain health conditions displays a lack of social power to promote sustainable health. However, discriminatory attitude and claims of HIV risk awareness, and yet engaging in risky sexual behaviour also are indicators of low HIV risk perceptions, which are rooted in limited knowledge of HIV and AIDS. A participant with such attitude towards HIV infected people, reported to have never tested for HIV and inconsistently used a condom:

> *"Something must skill a man., Whether HIV or accident. Many times, when such opportunity sex come, one hardly remembers the danger. Can you see even healthy people are dying and the sick ones, even with HIV are looking healthy".*
>
> (Urban, married female, 39 years old).

Sewell and Blankenship (2018) and Lammers et al (2013) found that those who engaged in high-risk sexual behaviour perceived themselves to be at low risk of HIV and the reason why most people hide their status and avoid health services, which allows HIV to thrive (Arrey *et al.*, 2017; Marsicano *et al.*, 2014).

Some people held the view that HIV does not exist at all. The AIDS denialists claim there is no proof that HIV causes AIDS, and they believe that HIV and AIDS do not exist. This attitude explains why HIV high-risk continues to thrive unabated in most African countries. A participant said he does not bother whether a person has HIV or no, because at the hospital, all diagnoses result always show one has HIV even if it were fever:

> *"There is nothing like HIV. The HIV thing is just an idea to discourage youths like me from having sex. If you have a high fever and go for a test, an HIV positive result will show. Go to another health centre for the same test; the result will be a high fever. I don't need such a place for a test of a virus that does not exist"* (Urban, unmarried male, 36 years old)

Suspicions of HIV prevention services

Like the above view, some participants in the research expressed concern about the sincerity of the HIV services, indicating it is what you know that kills and not what a person do not know. This attitude prompted some people to suspect medical examinations, and discouraged them from attending services:

> *"I often do not use protection during sex, and I do not want to know my HIV status. My reason is 'a bin da ba kasani ba, bazai kashe kaba' (What you do not know, will not kill you). The problem with the test is once you go there and do it, the result will show positive ... so, what you know kills faster than what you do not know".* (Urban, unmarried male, 31 years old).

Past studies showed that those who held this belief and attitude, such as doubting the existence and scientific validity of HIV and AIDS, were significantly less likely to be receiving antiretroviral therapy (Bohnert & Latkin, 2009; Kalichman et al., 2010;), and were discouraged from accessing HIV testing (Ford et al., 2013). Such beliefs ignore the importance of condom use. This situation has become more critical with the naming of non-scientific causes of HIV and AIDS to deceive people (Nattrass, 2012). This may have deterred people from seeking support at accredited hospitals and healthcare centres, and instead prompted their patronage of traditional healers and religious quacks who promise healing miracles. This represents a significant barrier to the global scientific efforts to halt HIV and AIDS by 2030.

Wife's postpartum abstinence.

The male-man is traditionally impatient in terms of drive for sex. Culturally, when a wife gives birth, she stays away from having sex with her husband for some weeks after the child's delivery. The period in which the man allows his wife to recover after the delivery becomes an occasion to seek sexual satisfaction with partners other than his spouse:

> *"The time it takes women to stop having sex after she delivers a baby are always a serious tempting moment for most men with high libido. She is meant to stay away from sex for her body to recuperate from the labour experiences for her health and safety of the baby. I tell you, men do not hold their sex desires, but go to satisfy it with other women out there".*
>
> (Rural, married male, 66 years old)

> *"Each time my wife has a new baby, she stops having se with me. This has pushed me going outside because I find it difficult to stay without sex for long. So, I go to some girls in the period my wife is on sex-leave"* (Urban, married male, 47 years old)

Major agents of HIV high-risk behaviour in Plateau State are the males, the adults in age group 25 years and above, and those with knowledge of HIV and prevention skills, who did not translate it into practice. Evidence from in-depth discussions reveal that the presence of the exploration of new sex experiences among adults, and gender related encouraged respondents to engage in high-risk behaviour.

Discussion

This study found that people who were aged 25 years and above were engaged high risk sex that increased the chance of HIV transition. Increase in age comes with increased exposure to sexual relationships in or outside marriage (Macaluso et al., 2000). Older people engage in sexual relationships without the use of a condom more often than the young people (Bankole et al., 2007). As higher possibility of HIV infection has links with unprotected frequent sex (Anyanwu & Fulton; 2017; Boily et al., 2009), which is also responsible for the spread of HIV in in sub-Saharan Africa (Halperin & Epstein, 2004). In Malawi (Beauclair et al., 2016, 2018), South Africa (Maughan-Brown et al., 2016; Brouard & Crewe, 2012), and Zimbabwe (Schaefer et al., 2017) risky sexual activities often involve age differences, and this is associated with a risk of sexually transmitted infection. Older men are often more able to provide security to young women and girls than men of their own age. The same factor can operate in the case of some mature women who prefer younger men as sexual partners, contesting the heterosexual social norms and barriers that have deprived them of sexual freedom over time (Alarie, 2020; Kuate-Defo, 2004).

The study further found that the men engaged in high-risk sexual behaviour in the last four weeks. The dominant ideas around masculinity and men's sexual behaviours made some men think that they have a right to sex, eagerly seeking and practising it with multiple women). Gender inequality exacerbated by cultural norms and practices placed the man as superior, and as someone with the freedom to engage with multiple sexual partners. In Northern Nigeria, married men living with HIV often engage in a sexual relationship with their discordant spouse without the use of a condom increasing the risk of HIV transmission (Iliyasu et al., 2020). Zhou et al. (2014) in a qualitative study found that the wife's menopause and postpartum made them turn down husbands requests for sex. Hence, the financial freedom, peer influence and fun seeking-behaviour among men make them seek sexual relationships with young girls, which grows into a network that encourages multiple, concurrent partnerships (Morrison-Beedy and Passmore, 2013) in which a condom is often not used (Beauclair et al., 2012). Man requires appropriate HIV multilevel intervention programmes that focuses sexual partners, promoting gender equality and educate them on the long-term negative impact of their high-risk sexual behaviours to decrease HIV transmission in Plateau State.

The study also found that a person can be willing to relate with people living with HIV/AIDS and less likely to translate the experience into HIV preventive behaviour due. There are myths surrounding HIV/AIDS and have become significant barrier to curbing the spread of the pandemic (Tenkorang, 2013). These misconception and speculations such as, AIDS can be cured when an infected person has sex with a virgin (Smith, 2003); HIV/AIDS is an expression of God's wrath against sexual promiscuity (Olaore and Olaore, 2014). For example, Tenkorang et al. (2011) reported that 29% of men and 31% of women of reproductive age believed that HIV and AIDS are transmitted through witchcraft and superstitious practice. These myths and beliefs affect people's judgements about HIV/AIDS, causing the fatalistic belief that HIV/AIDs cannot be prevented or treated. Thereby reducing the positive impact of HIV/AIDS prevention services (Caldwell, 1999), antiretroviral treatments (Jolley and Dauglas, 2014); low level of knowledge of HIV (Hogg et al., 2017); negative attitudes towards the use of condoms, and inconsistent condom use (Ross et al., 2006). As such, knowledge about the transmission and prevention of HIV is on the increase, yet it has not been put into practice for change in high risky behaviour. There is the need for a comprehensive awareness about the reality of HIV/AIDs and understanding to reduce sexual risk that expose people to the HIV transmission.

Conclusion

This showed the trends and patterns of sexual activity in the last four weeks and the risk associated with HIV transmission in Plateau state. The men, those aged 25 years and above, and willingness to buy vegetable from a vendor living with HIV were particularly at high risk of HIV infection. The root cause of these risks was attributed to related gender inequality in sexual relationships and lack of translating HIV awareness into practice. The gender appropriate interventions and comprehensive family and HIV education be explored in addressing HIV risky sexual behaviour in Plateau state.

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