Prevalence of Risky Sexual Behaviors of the Wealth Quintile among People Living With HIV in Lagos State

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ABSTRACT

This study investigates the prevalence of risky sexual behaviour among individuals from the highest and lowest wealth quintiles in Lagos State. A cross-sectional design of 1255 people living with HIV/AIDS (PLWHA) on ante-retro viral therapy (ART) at the Nigerian Institute of Medical Research, Yaba, Lagos State was conducted. Data on demographics, risky sexual behaviours (RSB) and substance use were collected through a structured questionnaire. Participants were quintiles based on principal component analysis of predefined indicators. The study focused on 258 respondents in the highest and 258 in the lowest wealth quintiles. RSB involves multiple sexual partners, unprotected sexual intercourse, and inconsistent use of condoms. The mean age of PLWHA was 34.2 years (SD: 12.9), 34.7% were males. RSB prevalence in these groups included multiple partners (10.2%) and injectable drug use (3.5%). The highest wealth quintiles had three times higher odds of risky behaviour (AOR 2.556) than the lowest quintile. Prevention for the lowest quintile should prioritize awareness, safer practices, and healthcare access. Interventions for the highest quintile should focus on stigma reduction, testing, counseling access, and comprehensive healthcare.

Keywords: HIV Infection, Highest Quintile, Lowest Quintile, People Living with HIV/AIDS.

1.0 INTRODUCTION

The HIV epidemic remains a significant challenge in Nigeria, necessitating a deep understanding of socioeconomic factors driving transmission. Among the drivers of HIV infection, risky sexual behaviour is responsible for the high proportion of HIV infection in sub-Saharan Africa compared with other regions (WHO, 2018). Despite the gains achieved in the fight against HIV in sub-Saharan Africa, it is still home to more than 60% of the world's 39.9 million people currently living with HIV, with 20.8 million living in East and Southern Africa and an incidence rate of 760,000 new infections in 2022 (UNAIDS, 2023). The era of HIV/AIDS has placed an economic and social burden on the government and individuals, so it is important to understand the drivers of HIV infection among the lowest and highest socioeconomic quintile.

Many adolescents in sub-Saharan Africa are sexually active; a majority do not disclose their HIV status to sexual partners, despite knowing their diagnosis (range 76–100% across available studies), and some did not use protection (condoms) to prevent transmission of HIV and other sexually transmitted diseases (range 35–55%) (Coetzee, Jewkes & Gray, 2017). In sub-Saharan Africa, a lot of adolescents who are HIV positive are involved in unprotected sex, oral sex, sharing of needles and syringes to inject drugs, and other forms of risky behaviour, which negatively impact their well-being and concern for their families (Coetzee, Jewkes & Gray, 2017).

Condoms are at the centre of a combination HIV prevention approach; they are also cost-effective tools for preventing other sexually transmitted infections and unintended pregnancies. An estimated 45 million HIV infections have been averted through condom use globally since 1990 (Dambach et al., 2020). Achieving the global condom target in 2020 would avert 3.4 million new infections (Dambach et al., 2020). A basic understanding of living with HIV, modes of infection, and transmission were widespread among sexually active adolescents. Yet this understanding did not always ensure safe sex nor mutual disclosure of HIV status between adolescents and partners. Adolescents who knew their status attempted to use condoms with their partners more than those who did not know their status, condom use was still inconsistent and subject to negotiations (Bolarinwa, Ajayi & Sah, 2022).

People living with HIV who were aware of their HIV status engaged in less risky sexual behaviour, resulting in lower chances of transmission compared to those who were unaware of their status. The knowledge of the risk of sexual behaviour among adolescents reduces their involvement in risky sexual behaviour. However, some studies have shown that there is no relationship between HIV knowledge and risky sexual behaviour (Jacka et al., 2019). The adolescents in this study who were aware of their HIV status demonstrated a significantly higher level of awareness of the risk of HIV transmission. Unfortunately, it did not translate into behaviour change as quite a number of those who were aware of their status still engaged in high-risk behaviour, many of them had multiple sexual partners and

had unprotected sex. The awareness of HIV status did not change the adolescents from engaging in high-risk sexual behaviour. There is a growing increase in the rate of premarital and unprotected sex. Despite the high awareness of HIV, others have inconsistent condom use among sexually active teenagers (Stoner, Kilburn, Godfrey-Faussett, Ghys & Pettifor, 2021). The observed high-risk sexual behaviour of the adolescents, despite their awareness of the risks involved, may perhaps be premised on the fact that the fear of getting infected with HIV has ceased to be a deterrent as they are already infected. It has consequences for the prevention and control of HIV/AIDS (Jacka et al., 2019).

Adolescents fail in adherence to antiretroviral drugs. The reasons for this included forgetfulness, physical health, distance from clinics, religion, and fear of unplanned disclosure. Also, parents find it difficult to disclose to their children that they are HIV positive. Some adolescents find it impossible to disclose their HIV status to their sexual partners despite being sexually active. Many of the studies were qualitative, which makes it impossible to determine the power of associations. A study in South Africa found that financial support augmented with social support from parents or teachers increased HIV-prevention benefits over cash alone, with reductions in the incidence of multiple and concurrent partners and other HIV risk behaviour (Bradley et al., 2014). Among the sexually active adolescents, a basic understanding of living with HIV, modes of infection and transmission was widespread. Yet this understanding did not always ensure safe sex nor mutual disclosure of HIV status between adolescents and partners.

Adolescents who knew their status attempted to use condoms with their partners more than those who did not know their status. Condoms are at the centre of HIV prevention approach; they are also cost-effective tools for preventing other sexually transmitted infections and unintended pregnancies. An estimated 45 million HIV infections have been averted through condom use globally since 1990 (Dambach et al., 2020). Inconsistent condom use within many populations and locations in greatest need, including challenges for women to negotiate condom use and insufficient availability of lubricants and female condoms, are among the drivers of HIV infection in Sub-Sahara Africa (Stoner et al., 2021).

Studies have shown that individuals from the lowest wealth quintile in Nigeria may be particularly vulnerable to engaging in risky sexual behaviours that increase their risk of HIV transmission. There is a higher prevalence of risky sexual behaviours, such as inconsistent condom use and multiple sexual partners, among individuals from lower socioeconomic backgrounds. Limited access to comprehensive sexual health education, healthcare resources, and HIV prevention services further contributes to the elevated risk of HIV transmission in this population (Bassey & Miteu, 2023).

Contrary to popular belief, individuals from higher socioeconomic backgrounds in Nigeria are not immune to engaging in risky sexual behaviours and being at risk for HIV. Limited research specifically focuses on the highest wealth quintile of risky sexual behaviour and HIV risk in Nigeria. However, evidence from global studies suggests that individuals from wealthier backgrounds may also engage in risky sexual behaviours,

including unprotected sex, transaction sex, and multiple sexual partnerships, which increase their vulnerability to HIV transmission (Bradley et al., 2014). This study determines the prevalence of risky sexual behaviours of the lowest and highest wealth quintile among people living with HIV in Lagos State.

2.0   METHOD

2.1   Sampling Site

The study was conducted in Lagos State. Lagos State was created on May 27, 1967, through the state (Creation and Transition Provisions) Decree No. 14 of 1967, which restructured Nigeria's Federation into 12 states. Lagos was the capital of the Federal Republic of Nigeria until 1991 when the capital was moved to Abuja. Lagos State is estimated to be growing at between 6 percent and 8 percent per annum making it one of the fastest-growing cities in the world. It comprises 374 political wards spread over 3 senatorial districts, 20 Local governments, and 37 Local council development areas. The current metro area population of Lagos in 2021 is 14,862,000 a 3.44 increase from 2020. The metro area population in 2020 was 14,368,000, a 3.34% increase from 2019.

2.2   Research Plan

A cross-sectional analytical study design centered on people living with HIV in Lagos State.

2.3   Study Population

The study population used for the study are people living with HIV/AIDS receiving care at the Nigerian Institute of Medical Research, Lagos.

2.4   Sample Size Calculation

Sample size: The sample size was calculated using the formula for comparing two independent groups.

$$n = \frac{(Z_{1-\alpha/2} + Z_{1-\beta})[P_1(1 - P_1) + P_2(1 - P_2)]}{(P_1 - P_2)}$$

Where
n = Minimum sample size for each group
$Z_{1-\alpha/2}$ = standard normal deviate corresponding to a 5% level of significance (α) = 1.96
$Z_{1-\beta}$ = standard deviate at 90% statistical power = 1.28

P_1 = prevalence of 17%, prevalence of risky sexual behavior (having sex with multiple partners) in Nigeria (NDHS, 2018).

P_2 = 32% (assuming a 15% difference between the highest wealth quintile and Lowest wealth quintile and anticipating higher risky sexual behavior (having sex with multiple partners) in the lowest wealth quintile)

$(P_1 - P_2)$ = difference in the proportion of multiple sexual partners in the lowest wealth quintile and highest wealth quintile of people living with HIV receiving care at the Nigerian Institute of Medical Research, Lagos.

Therefore, P_1 = 17%, P_2 = 32%

$$n = \frac{(1.96 + 1.28)^2 \,[0.17\,(0.83) + 0.32\,(0.68)]}{(0.17 - 0.32)^2} = \mathbf{167}$$

A design effect /correction factor of 1.5 will be considered because of the clustering responses sampling technique used.

This made the minimum sample size (1.5 X 167)

20% ratio of the wealth of households at the top (highest wealth quintile) = **251**

Therefore, the five wealth quintiles = 251X5 = **1,255**

According to the sample size calculation, 1,255 participants were selected for the **first phase** of the study.

The Wealth index of the household of the respondents was calculated. Only 20% at the topmost (highest wealth quintile) and 20% at the bottom (lowest wealth quintile) i.e. 1,255 X 0.2 = 251X2 = **502** participants were used for the comparative study, **2nd Phase** of the study.

2.5   Sampling Technique

The study sample was selected using a systematic random sampling technique. The procedure involves drawing a sample by taking the Kth case from a list of every population. n = 1255, N = 7000; having known the total number of PLWHIV currently receiving care at NIMR, N was divided by n to determine the sampling interval (K) to apply to the list.

$$\text{That is } K = \frac{N}{n} = \frac{7000}{1255} = 5.6 \sim 6.0$$

The first participant was selected at simple random sampling between serial numbers 1 – 6, and then every 6th member of the population was selected for inclusion in the sample.

2.6   Data Collection Method and Instrument

The data for the study was collected in September 2022 at the Nigerian Institute of Medical Research, Yaba, Lagos State. Four research assistants were recruited and trained for the study. Research assistants spent at least four weeks to administer the structured questionnaire. The research assistants were undergraduate students at Lagos State College

of Health Technology, Yaba who were on SIWES at the Nigerian Institute of Medical Research. A semi-structured questionnaire and interview were administered to the respondents. The questionnaire was administered by research assistants.

2.7 Ethical Consideration

Ethical clearance was obtained from the Research Ethical Review Committee of NIMR and the Lead City University Ethical Review Committee. Informed consent was obtained from respondents. Confidentiality was ensured. Confidentiality was ensured by not collecting the names and addresses of the respondents on the research instrument.
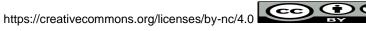
2.8 Analysis of Data

Numbers were used to code each response category, open-ended questions were grouped and coded as appropriate, and frequencies, percentages, and means of variables were generated. Data collected from questionnaires were confirmed for errors, cleaned, coded, and analyzed using the Statistical Package for Social Sciences (SPSS) Software Version 28. Data were checked and cleaned daily to ensure missing items were accounted for and variables not properly entered were corrected. Tables, charts, frequencies, and percentages were used to analyze the data at a 5% significant level.

3.0 RESULTS AND DISCUSSION

Table 1: Socio-demographic Characteristics of People Living with HIV at NIMR, 2022

Characteristics (n = 1255)	N	%
Sex		
Male	372	29.6
Female	883	70.4
Age group (years)		
10 - 19	154	123
20 - 29	412	32.8
30 -39	279	22.2
40 - 49	253	20.2
50 - 59	106	8.4
60 ad above	51	4.1
Area of residence		
Urban	788	62.8
Semi-urban	467	37.2
Educational level		
No formal education	21	1.7

Primary incomplete	39	3.1
Primary complete	144	11.5
Secondary/vocational incomplete	104	8.3
Secondary/vocational complete	372	29.6
Post-secondary	575	45.8
Marital status		
Never married	564	44.9
Married or Cohabiting	580	46.2
Divorced or separated	53	4.2
Religion		
Islam	414	33.0
Christianity	825	65.7
Traditional	12	1.0
Others	4	0.3
Wealth Quintiles		
Poorest	**265**	**21.1**
Poor/ Middle/ Rich	739	58.9
Richest	**251**	**20.0**

Others were - Eckankar, Secular and Atheist etc.
Mean age = 33.77years. SD =18.2

Of the 1225 interviewed respondents, 372 (29.6%) were males and 883 (70.4%) were females. Four hundred and twelve (412) (32.8%) were between the age of 20-29 years, with a mean age of 33.77 years, and the SD was 18.2. The analysis of results showed that 788 (62.8%) were residing in urban areas. The analysis revealed that 372 (29.6%) had secondary/vocational study completed. It also showed that 580 (46.2%) were married or cohabiting. While 825 (65.7%) practice Christianity and another 414 (33.0%) practice Islamic religion. The results further revealed that 265 (21.1%) lowest socio-economic quintiles and 251 (20.0%) highest socio-economic quintiles were analyzed in the study (Table 1).

Table 2: Risky Sexual Behavior Characteristics of People Living with HIV in Highest and Lowest Wealth Quintile at NIMR, 2022

Characteristics	N	%
Have life partners (n = 516)		
No	311	60.3
Yes	205	39.7
Number of life partners (n = 205)		
1	184	89.8
2 or more	21	10.2

Condom use during sexual intercourse		
No	140	56
Yes	65	44
Correct use condom (n = 205)		
No	137	66.8
Yes	68	33.2
Frequency of condom use (n = 205)		
Never	26	12.7
Once in a while	77	37.6
Regularly	102	49.7
Sexual intercourse in the past three months(n=205)		
No	0	0
Yes	205	100
Number of life partners cohabited with during the past 3 months (n = 205)		
1	165	80.5
2 or more	40	19.5
Using Protection during sexual intercourse with non-regular partner		
Never	0	0
Rarely	26	12.7
Sometimes	67	32.7
Almost every time	48	23.4
Every time	64	31.2
Condom usage during sex with your most non-regular or casual partner		
No	109	53.2
Yes	96	46.8
Awareness of HIV status of all non-regular partner(s) (n = 205)		
None	114	55.6
Some	67	32.6
All	24	11.8
Disclosure of HIV/AIDS status to non-regular partners		
None	110	53.6
Some	73	35.6
All	22	10.6

This study showed that 205 (39.7%) respondents had life partners. The analysis of this study further revealed that 21 (10.2%) of respondents had 2 or more life partners. The outcome of this study further presented that 140 (56%) of respondents did not use a condom during their last sexual intercourse. The study also revealed that 137 (66.8%) of respondents did not understand the correct use of condoms when having sexual intercourse with a life partner. The results of the analysis of this study showed that 102 (49.7%) of respondents use condoms regularly. The results of the analysis of this study unveiled that 205 (100%) of respondents had Sexual intercourse in the past three months. This study showed that 40 (19.5%) cohabited with 2 or more life partners during the past 3 months. The study revealed that 26 (12.7%) of respondents rarely used protection during sexual intercourse with non-regular partners. The study also disclosed that 109 (53.2%) of respondents said no to condom usage during sex with the most non-regular or casual partners. The results of this study manifested that only 24 (11.8%) of respondents knew the HIV status of all their non-regular partners, and 10.8% of respondents said they had disclosed their HIV status to their non-regular partners (Table 1).

The prevalence of risky sexual behaviour in the lowest wealth quintile of the PLWHA receiving care at NIMR is 15% but it is higher in the highest wealth quintile with a prevalence value of 27%. The study shows that 205(40%) of the respondents had life partner(s). The study further revealed that out of respondents who had life partners 102(49.7%) of respondents used condoms regularly when he or she had sexual intercourse with non-regular partners. This result supports the study carried out in sub-Saharan Africa which reveals that the majority of the participants are fond of unprotected sex, oral sex, and other forms of risky sexual behaviour. It corroborates the result of a combined study in West Africa which shows that many of the respondents do not practice safe sex (WHO 2018). This is in line with a study in Kenya which reveals condom utilization was not regular and subject to negotiation. This result aligns with the work in 2018 in which less than half, 45% of study participants did not use condoms during sexual intercourse with non-regular partners (Bolarinwa, Ajayi & Sah, 2022).

Studies have shown that individuals from the lowest wealth quintile in Nigeria may be particularly vulnerable to engaging in risky sexual behaviours that increase their risk of HIV transmission. The higher prevalence of risky sexual behaviours, such as inconsistent condom use and multiple sexual partners, among individuals from lower socioeconomic backgrounds. Limited access to comprehensive sexual health education, healthcare resources, and HIV prevention services further contributes to the elevated risk of HIV transmission in this population (Dambach et al. 2020 & Stoner 2021).

Contrary to popular belief, individuals from higher socioeconomic backgrounds in Nigeria are not immune to engaging in risky sexual behaviours and being at risk for HIV. Limited research specifically focuses on the highest wealth quintile of risky sexual behaviour and HIV risk in Nigeria.

3.3 Study Limitation

The limitations of this research study are related to the inherent limitation of all cross-sectional studies which include selection bias; this study focused only on people living with HIV/AIDS who are receiving care at the Nigerian Institute of Medical Research Lagos, which could limit the generalizability of the findings to other regions of Nigeria. This also implies that the study did not capture those living with HIV/AIDS who are not accessing care at health institutions. Reliance on Self-Reported Data; Some data, particularly related to behavioral factors (like condom usage, number of sexual partners, and drug use) are often self-reported and subject to recall bias and social desirability bias. There may be other confounders, such as cultural or regional differences, that could influence the relationship between socioeconomic status and HIV infection rates.

4.0   CONCLUSION

This study reveals critical insights into the prevalence of risky sexual behaviours among people living with HIV/AIDS (PLWHA) in Nigeria, highlighting the influence of socioeconomic status. The findings indicate that risky sexual behaviours are prevalent across all wealth quintiles, with a notable increase among wealthier individuals. The inconsistent use of condoms, particularly with non-regular partners, underscores a significant public health concern that mirrors trends observed in other regions of sub-Saharan Africa. Moreover, the vulnerability of individuals in the lowest wealth quintile, exacerbated by limited access to sexual health education and resources, emphasizes the need for comprehensive interventions. However, the study also challenges the assumption that higher socioeconomic status protects individuals from engaging in risky sexual practices. The findings call for targeted strategies that address the diverse factors contributing to risky sexual behaviours, aiming to reduce HIV transmission effectively across various socioeconomic strata in Nigeria.

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