Prevalence and Predictors of Risky Sexual Behavior in HIV-Infected Adolescents: A Study from Kaduna, Nigeria

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ABSTRACT

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Background: The prevalence of risky sexual behavior among HIV-infected adolescents is a public health challenge, especially in regions with a high HIV burden like Sub-Saharan Africa. This study explores the prevalence and predictors of such behaviors among adolescents receiving care in a youth-friendly clinic in Kaduna, Nigeria.

Methods: In a cross-sectional study conducted at a tertiary hospital's youth-friendly clinic, we analyzed data from 200 HIV-infected adolescents aged 13 to 19 years. The revised Risky Sexual Behaviour Questionnaire (RSBQ) provided comprehensive data, which was subjected to logistic regression analysis to identify significant predictors of risky sexual behaviors.

Results: The study found a 45% prevalence of risky sexual behaviors among participants. Logistic regression analysis indicated significant predictors including male gender (OR = 2.1), lower education level (OR = 2.5), and poor HIV-related knowledge (OR = 2.8).

Conclusions: Nearly half of the HIV-infected adolescents engaged in risky sexual practices, with significant predictors identified across gender, education, and HIV knowledge domains. These findings underscore the urgent need for targeted educational and behavioral interventions tailored to this vulnerable population.

KEYWORDS

HIV/AIDS, Adolescents, Risky Sexual Behavior, Youth-Friendly Services, Sexual and Reproductive Health

INTRODUCTION

The prevalence of risky sexual behaviour among HIV-infected adolescents remains a significant public health concern, particularly in regions with a high HIV burden such as Sub-Saharan Africa. In Kaduna, Nigeria, the increasing number of adolescents living with HIV and engaging in risky sexual practices requires a deeper understanding of the underlying factors contributing to this phenomenon. This study aims to explore the prevalence and predictors of risky sexual behaviour among HIV-infected adolescents receiving care in a youth-friendly clinic of a tertiary hospital in Kaduna, Nigeria.

Risky sexual behaviour, defined as practices that increase the probability of acquiring sexually transmitted infections (STIs) and unintended pregnancies, includes having multiple sexual partners, engaging in unprotected sex, and initiating sexual activity at an early age.[1,2] Adolescents living with HIV are particularly vulnerable to the consequences of such behaviours, including the risk of transmitting the virus to others and the potential for contracting additional STIs.[3]

Several factors have been identified as predictors of risky sexual behaviour among adolescents, including low socioeconomic status, lack of parental supervision, substance abuse, and limited access to sexual and reproductive health services.[4,5] Furthermore, stigma associated with HIV can lead to social isolation and psychological distress, further exacerbating the likelihood of engaging in risky sexual practices.[6]

Given the complex interplay of individual, social, and structural factors that influence risky sexual behaviour among HIV-infected adolescents, this study aims to fill the research gap by identifying specific predictors of risky sexual behaviour among HIV-infected adolescents receiving care in a youth-friendly clinic in Kaduna, Nigeria, to inform targeted interventions. Understanding these factors is crucial to developing targeted interventions aimed at reducing risky sexual behaviour and improving the overall health and well-being of this vulnerable population.

METHODOLOGY
Study Design and Setting
This cross-sectional study was conducted at a youth-friendly clinic within a tertiary hospital in Kaduna, Nigeria. The youth-friendly clinic was chosen for the study due to its comprehensive care model for HIV-infected adolescents, including antiretroviral therapy, counselling, and sexual and reproductive health services, making it an ideal setting to understand the dynamics of risky sexual behaviour in this population.

Study Population and Sampling
The study population comprised HIV-infected adolescents aged 13 to 19 years who were receiving care at the youth-friendly clinic. A sample size of 200 participants was determined using Cochran's formula for cross-sectional studies, considering an estimated prevalence of risky sexual behaviour among HIV-infected adolescents in Nigeria, a confidence level of 95%, and a margin of error of 5%. Participants were selected through systematic random sampling, with every fifth adolescent attending the clinic during the study period being invited to participate.

Data Collection
Data was gathered using the revised Risky Sexual behaviour Questionnaire (RSBQ), an upgrade of AIDS Risk behaviour Assessment that provides an extensive way of measuring dangerous sexual conduct. Questions on sexual antecedents such as partner count, protection used during sexual activities and their consequences in addition to substance use concurrent with sexual engagement are included herein. The RSBQ uses a scoring system where higher scores indicate a greater engagement in risky sexual behaviours. Specific behaviours, such as having multiple sexual partners, engaging in unprotected sex, and early initiation of sexual activity, are assigned point values. The cumulative score helps categorize adolescents into different risk levels, with predefined thresholds distinguishing between low, moderate, and high-risk behaviours. A cumulative score is calculated to indicate an individual's risky sexual behaviours and disseminated through direct interviews. It contains segments to gather demographic data, HIV awareness information, sexual history records and any possible involvement with precarious sexual acts. Risky sexual behaviours include multiple partners or engaging in unprotected encounters before age 15, initiating sexual endeavours before this threshold and starting sexual relationships before reaching fifteen. To ensure its intelligibility and pertinence, the questionnaire was initially pilot tested with adolescents from an equivalent clinic having similar demographic characteristics.

Initial assessments of the questionnaire focused on refining its design based on feedback received, to ensure each question would be understood consistently by respondents from our target demographic. It also sought to validate its ability in capturing more nuanced aspects of sexual health behaviour among adolescents who may be at elevated risk.

A comprehensive assessment was performed on the Risky Sexual behaviour Questionnaire (RSBQ), including its construct validity and reliability measures, to verify that its results remain consistent across different administrations of this instrument.

Once validated, the revised RSBQ was used in a larger study to systematically collect data on risky sexual behaviours among adolescents. An aggregate score derived from the questionnaire allowed quantifiable analysis of this behaviour as well as pattern identification and correlations with demographic and knowledge variables. This methodological approach provided a powerful framework for comprehending factors associated with risky sexual practices among adolescents - essential in developing effective targeted interventions designed to lessen prevalence rates of such practices as well as their adverse health outcomes.

ETHICAL CONSIDERATIONS
Ethical approval for the study was obtained from the hospital's Health Research Ethics Committee. Informed consent was sought from participants aged 18 and 19 years, while assent was obtained from those aged 13 to 17 years, in addition to consent from their parents or guardians. Confidentiality was maintained by assigning unique identification numbers to participants and storing data in a secure, password-protected database. All ethical guidelines were followed in the study.

Data Analysis
Data were analysed using SPSS version 25. Descriptive statistics were used to summarize demographic characteristics and the prevalence of risky sexual behaviour. Logistic regression analysis was conducted to identify predictors of risky sexual behaviour, with odds ratios and 95% confidence intervals reported. A p-value of less than 0.05 was considered statistically significant.

Validity and Reliability
To ensure the validity of the study, the questionnaire was developed based on a review of relevant literature and input from experts in adolescent health and HIV care. Reliability was assessed through a pilot study, with a Cronbach's alpha coefficient of 0.78 indicating acceptable internal consistency.

Limitations
The cross-sectional design of the study limits the ability to establish causal relationships between predictors and risky sexual behaviour. Additionally, self-reported data may be subject to social desirability bias, potentially leading to underreporting of risky sexual behaviours.

RESULTS

Demographic Characteristics of Participants

A total of 200 HIV-infected adolescents participated in the study, with a mean age of 16.4 years (SD = 1.8). The majority were female (60%), and most participants (70%) were attending secondary school. The demographic characteristics of the participants are summarized in Table 1.

Prevalence of Risky Sexual Behaviour

The prevalence of risky sexual behaviour among participants was 45% (n=90). Specifically, 30% (n=60) had reported having multiple sexual partners, 25% (n=50) had reported engaging in unprotected sex, and 15% (n=30) had reported initiating sexual activity before the age of 15. The high prevalence of risky sexual behaviour among the study participants underscored the urgent need for targeted interventions to address this issue in this population. The distribution of risky sexual behaviours is presented in Figure 1.
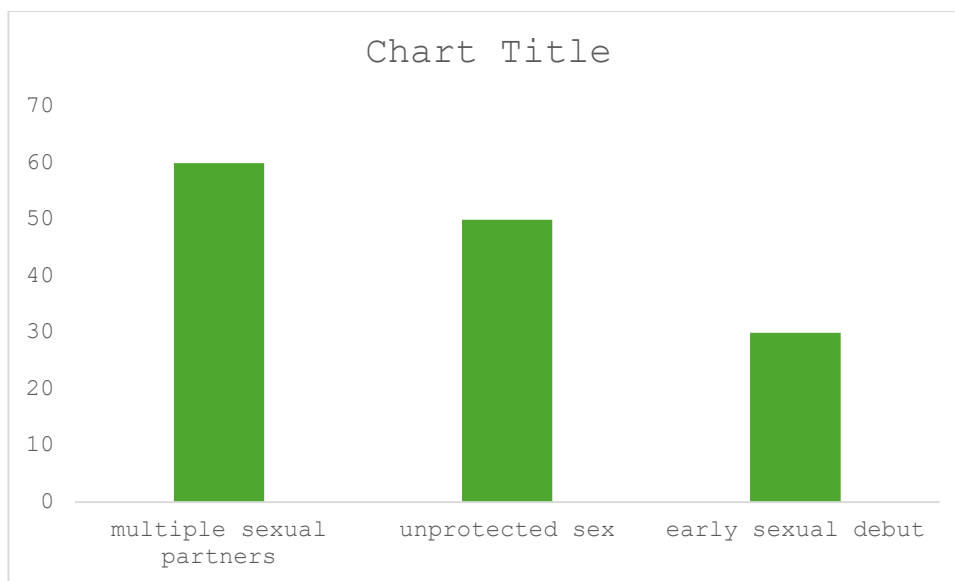

Figure 1: Distribution of Risky Sexual Behaviours Among Participants

Predictors of Risky Sexual Behaviour

Logistic regression analysis revealed that being male (OR = 2.1, 95% CI: 1.2-3.7, p = 0.01), having a lower education level (OR = 2.5, 95% CI: 1.3-4.9, p = 0.005), and having poor HIV-related knowledge (OR = 2.8, 95% CI: 1.5-5.2, p = 0.001) were significant predictors of engaging in risky sexual behaviour. Table 2 presents the results of the logistic regression analysis.

DISCUSSION

This study's results demonstrate an alarming prevalence of risky sexual behaviour among HIV-infected adolescents receiving care at a youth-friendly clinic in Kaduna, Nigeria. Nearly half (45%) reported engaging in behaviours which increased their risk for adverse sexual health outcomes such as engaging in multiple sexual partners at once or unprotected sex and initiating sexual activity at an early age - this finding mirrors previous research in similar settings highlighting risky sexual behaviour among adolescents living with HIV[7,8]

Predictor analysis in this population offers crucial insight for targeted interventions. Male adolescents were found more likely to engage in risky sexual behaviour compared to their female counterparts; this pattern has been noted elsewhere[5,9] as it underscores the necessity of interventions that address

specific social and cultural influences that determine sexual behaviour among male adolescents.

Lower education level was another significant predictor of risky sexual behaviour, consistent with previous research showing a strong association between educational attainment and sexual health outcomes.[4,11] This finding highlights the necessity of including sexual and reproductive health education into school curricula to equip adolescents with knowledge and skills necessary to make informed decisions regarding their sexual behaviour.

Poor HIV knowledge was also identified as a predictor of risky sexual behaviour among HIV-infected adolescents, emphasizing the necessity of comprehensive HIV education to reduce risky sexual behaviour among this group.[3,7] Increasing access to accurate and age-appropriate HIV information through youth-friendly services can contribute to better sexual health outcomes among this population.

Three significant predictors of risky sexual behavior among the study participants were identified:

1. **Gender (Male vs. Female):** Male adolescents were more likely to engage in risky sexual behavior compared to their female counterparts. This finding suggests that gender-specific factors, such as

societal norms and expectations, may influence sexual behavior among adolescents. Interventions targeting male adolescents should address these gender-specific influences and promote responsible sexual behavior.

2. **Education Level (Primary/Secondary vs. Tertiary):** Adolescents with lower education levels were found to be at a higher risk of engaging in risky sexual behavior. This highlights the importance of education as a protective factor against risky sexual behavior. Enhancing educational opportunities and integrating sexual and reproductive health education into school curricula can empower adolescents with the knowledge and skills to make informed decisions about their sexual behavior.

3. **HIV-related Knowledge (Poor vs. Good):** Poor HIV-related knowledge was associated with a higher likelihood of engaging in risky sexual behavior. This underscores the need for comprehensive HIV education programs that provide accurate and age-appropriate information about HIV transmission, prevention, and the consequences of risky sexual behavior. Improving HIV knowledge among adolescents can contribute to reducing the prevalence of risky sexual behavior and improving overall sexual health outcomes."

These findings emphasize the need for targeted interventions that address the specific predictors of risky sexual behavior among HIV-infected adolescents. By focusing on gender, education, and HIV-related knowledge, public health initiatives can effectively reduce the prevalence of risky sexual behavior and its associated risks.

Overall, the findings of this study highlight the urgent need for targeted interventions to address risky sexual behaviour among HIV-infected adolescents in Kaduna, Nigeria. By understanding the prevalence and predictors of such behaviour, healthcare providers and policymakers can develop tailored strategies that focus on education, gender-specific factors, and HIV-related knowledge to reduce the risk of further HIV transmission and improve overall sexual health outcomes for this vulnerable population.

CONCLUSION

This study presents evidence of high prevalence rates of risky sexual behaviour among HIV-infected adolescents in Kaduna, Nigeria. Key predictors identified through this research may help develop targeted interventions and decrease transmission risks while improving sexual health outcomes for this vulnerable population. Gender, educational and knowledge factors associated with risky sexual behaviours must also be addressed as these contribute directly to sexual risk-taking behaviour among HIV infected adolescents in Kaduna, Nigeria.

Given these results, there is a crucial need for further research to examine the efficacy of targeted interventions addressing the identified predictors of risky sexual behaviour among HIV-infected adolescents. Additionally, the development and implementation of comprehensive, culturally sensitive programs that encompass education, gender-specific strategies, and enhanced HIV knowledge are imperative to mitigate the risks associated with such behaviour and improve the overall well-being of this population in Kaduna, Nigeria, and beyond.

Table 1: Demographic Characteristics of Participants (N=200)

Characteristic	Frequency (%)
Age (Years)	
13 – 15	60 (30)
16 – 19	140 (70)
Gender	
Male	80 (40)
Female	120 (60)
Educational level	
Primary	40

Secondary	140
Tertiary	20
Marital Status	
Single	180
Married	20

Table 2: Logistic Regression Analysis of Predictors of Risky Sexual behaviour

Predictor	Odds Ratio (OR)	95% Confidence Interval (CI)	p-value
Gender (Male vs Female)	2.1	1.2 – 3.7	0.01
Education Level (Primary/Secondary vs Tertiary)	2.5	1.3 – 4.9	0.005
HIV-related Knowledge (Poor vs Good)	2.8	1.5 – 5.2	0.001

REFERENCES

1. Baker JL. Risky sexual behavior among adolescents: The role of decision-making. J Adolesc Health. 2003;32(3):217-225.

2. Lansdown G, Warne T, Gillen P. The sexual health of young people: A review of reviews. Child Fam Soc Work. 2012;17(1):18-30.

3. Wiysonge CS, Kongnyuy EJ, Shey M, Muula AS, Navti OB, Akl EA, et al. Male circumcision for prevention of homosexual acquisition of HIV in men. Cochrane Database Syst Rev. 2017;(5):CD007496.

4. Babalola S, Fatusi A, Anyanti J. Media saturation, social norms, and adolescent sexual behavior in Nigeria. Afr J Reprod Health. 2014;18(1):142-153.

5. Idele P, Gillespie A, Porth T, Suzuki C, Mahy M, Kasedde S, et al. Epidemiology of HIV and AIDS among adolescents: current status, inequities, and data gaps. JAIDS J Acquir Immune Defic Syndr. 2014;66:S144-S153.

6. Earnshaw VA, Chaudoir SR. From conceptualizing to measuring HIV stigma: A review of HIV stigma mechanism measures. AIDS Behav. 2009;13(6):1160-1177.

7. Adefolalu AO. Sexual behaviour and practices among adolescents living with HIV in Sub-Saharan Africa: A systematic review. Afr J Reprod Health. 2018;22(3):31-43.

8. Mmari K, Sabherwal S. A review of risk and protective factors for adolescent sexual and reproductive health in developing countries: An update. J Adolesc Health. 2013;53(5):562-572.

9. Pettifor A, Levandowski BA, MacPhail C, Padian NS, Cohen MS, Rees HV. Keep them in school: The importance of education as a protective factor against HIV infection among young South African women. Int J Epidemiol. 2012;41(6):1665-1673.

10. Hallfors DD, Iritani BJ, Miller WC, Bauer DJ. Sexual and drug behavior patterns and HIV/STD racial disparities: The need for new directions. Am J Public Health. 2007;97(1):125-132.