Determinants of sexual risk practices and HIV transmission among women of childbearing age in semi-urban communities of Rivers State, Nigeria

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Background

- Sexual risk behaviors are among the key drivers of the HIV epidemic in Nigeria, where heterosexual transmission accounts for 80–95% of all infections.[1]

- Women are disproportionately affected, with infection rates two to three times higher compared with men.[2]

- This study was aimed at identifying the determinants of sexual risk practices and HIV transmission among women in order to address their peculiar intervention needs and to minimize the mother-to-child transmission of the virus.

Methods -1

- The study utilized a quantitative household-based cross sectional design and Cluster sampling technique to generate data among women of child bearing age who were normally resident in 5 semi-urban communities in Rivers State, Nigeria in November 2013.

- Sample size of 769 for the study was computed using the Fisher's formula for descriptive studies; $n = Z^2pq/d^2$ at 95% confidence level, 5% margin of error.

Methods -2

Data Collection

- A validated, interviewer-administered questionnaire was used to collect information from the respondents.

- Information on sexual risk practices were on multiple sexual relationships, non-use of condoms among multiple sex partners, sexual debut before age 15 or the use of alcohol or recreational drugs before sex.

Methods-3

- Data was analyzed using the Statistical Package for Social Sciences (SPSS) Version 20.
- Bivariate analysis was performed using Chi-square and Fisher's Exact statistical tests.
- Multivariate analysis using unconditional logistic regression was done with sexual risk behaviors of participants as dependent variable, and their socio-demographic characteristics, HIV knowledge and perception constituting the independent variables.
- A *p-value* of ≤ 0.05 was considered statistically significant.

Results

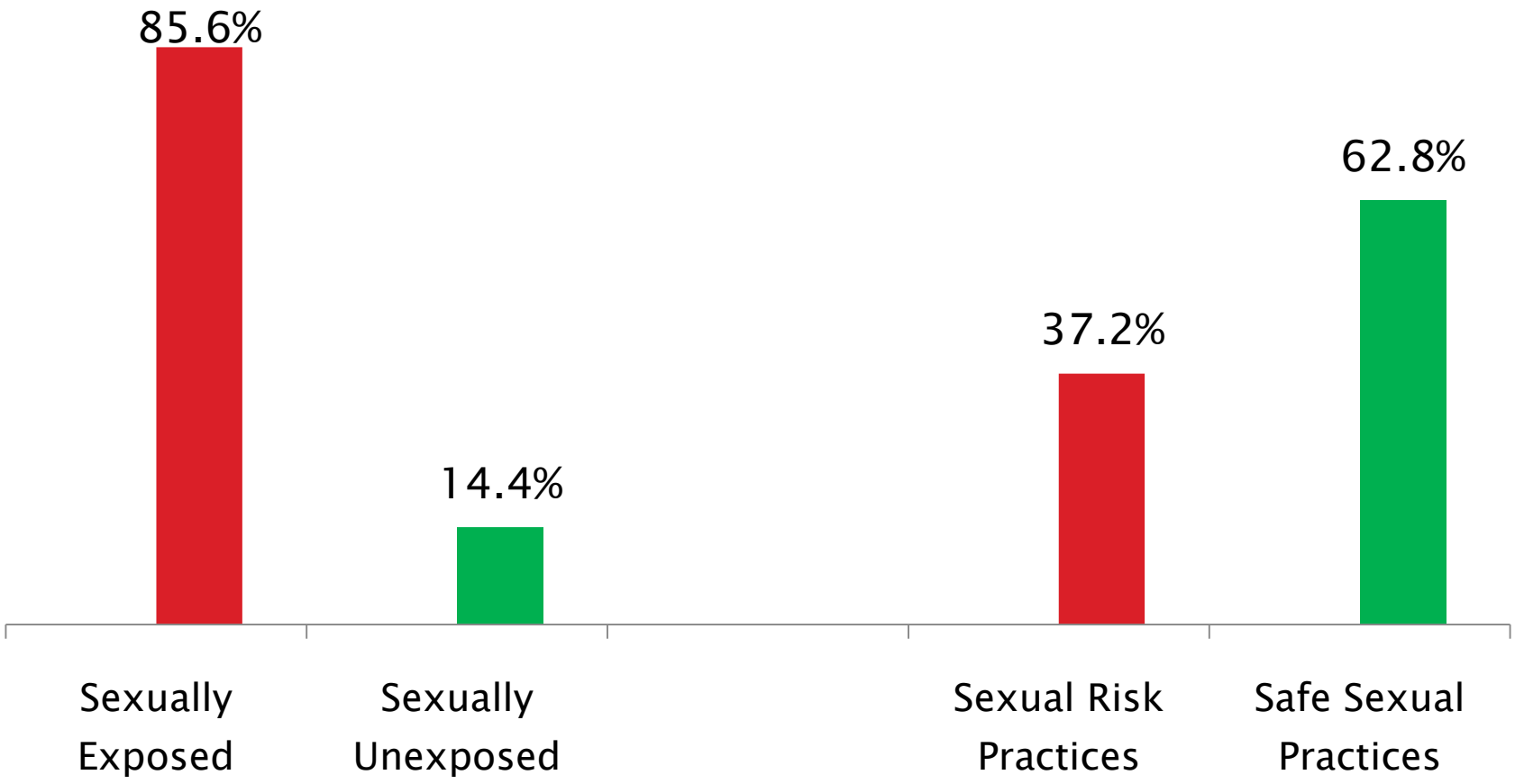

Figure 1: Sexual Exposure of Respondents

Prevalent sexual risk practices

Table 1: Association between poor HIV knowledge & sexual risk

HIV Knowledge Indicators	HIV sexual risk behaviors		P value
	Yes (n=245) n (%)	No (n=413) n (%)	
HIV transmission by unprotected sex			
Yes	148 (34.3)	284 (65.7)	0.029*
No	97 (42.9)	129 (57.1)	
HIV transmission by blood transfusion			
Yes	168 (34.2)	323 (65.8)	0.006*
No	77 (46.1)	90 (53.9)	
Mother-to-child transmission of HIV			
Yes	129 (33.2)	259 (66.8)	0.011*
No	116 (43.0)	154 (57.0)	
HIV transmission by sharing sharp objects			
Yes	193 (35.5)	351 (64.5)	0.042*
No	52 (45.6)	62 (54.4)	

***Statistically significant**

Table 4: Association between sexual risk practices and socio-demographic variables

Variables	HIV sexual risk behaviors		Total	p value
	Yes (n=245) n(%)	No (n=413) n(%)		
Age				
15–24	106 (40.5)	156 (59.5)	262	0.007*
25–34	89 (30.6)	202 (69.4)	291	
35–44	39 (45.9)	46 (54.1)	85	
45–49	11 (55.0)	9 (45.0)	20	
Marital Status				
Single	113 (38.8)	178 (61.2)	291	0.039*
Married	119 (34.6)	225 (65.4)	344	
Separated/Divorced	2 (28.6)	5 (71.4)	7	
Widowed	11 (68.8)	5 (31.2)	16	
Educational level				
None	11 (55.0)	9 (45.0)	20	0.045*
Primary	27 (49.1)	28 (50.9)	55	
Secondary	167 (36.7)	288 (63.3)	455	
Tertiary	40 (37.2)	88 (68.8)	128	
Parity				
0	119 (38.8)	188 (61.2)	307	0.032*
1–4	98 (33.1)	198 (66.9)	296	
≥5	27 (50.9)	27 (49.1)	55	

*Statistically significant

Determinants of Sexual risk behaviors

Independent variables	Adjusted Odds ratio	95% Confidence Interval		P value
		Lower limit	Upper Limit	
Age group (youth/non-youth)	1.571	1.106	2.231	0.012*
Marital status (never married/ever married)	1.714	1.190	2.469	0.004*
Education (non-educated/educated)	2.241	0.931	5.390	0.072
Employment status (employed/unemployed)	1.231	0.882	1.718	0.220
knowledge of HIV transmission via unprotected sex	0.679	0.486	0.948	0.023*
HIV knowledge of HIV transmission via blood transfusion	0.737	0.452	1.202	0.222
HIV knowledge of HIV transmission via sharing of sharps	0.803	0.462	1.396	0.437
Knowledge of mother-to-child transmission of HIV	0.840	0.57	1.238	0.379
Perception HIV being a threat to human life	0.362	0.211	0.6211	0.000*
HIV being from witchcraft	0.983	0.701	1.377	0.920
HIV being cured with traditional medicine	1.250	0.853	1.833	0.252
Perception that HIV can be cured by sex with virgins	1.156	0.757	1.765	0.502
Constant	0.099			0.019

*Statistically significant

Discussion Points-1

- This study showed that while nearly all of the respondents (85.6%) were sexually exposed.
- A third of the sexually exposed engaged in sexual risk practices, with less than a quarter of them using condoms consistently with casual sex partners.
- Others were involved with multiple sexual relationships and the use of alcohol and illicit drugs before sex, all which have known implications for increased HIV transmission

Discussion Points-2

- High alcohol or drug intake is known to alter an individual's sense of judgment that may predispose to inconsistent condom use and multiple sexual exposures, all of which have severe consequences for HIV transmission [3], [4].

- Our study showed that inappropriate knowledge about HIV transmission still persisted among several respondents three decades since the epidemic.

- Such gaps in HIV knowledge have also been reported in some setting in Nigeria and elsewhere in Sub-Saharan Africa [5], [6].

Discussion Points-3

- The persistence of knowledge gaps might therefore partly explain why new cases of the HIV infection have continued to emerge in many locales and regions in sub-Saharan Africa despite the significant global and local responses to the epidemic [7], [2].

- It might also be the reason why HIV/AIDS is the leading cause of death among women of child bearing age, especially in sub-Saharan Africa [7].

Discussion Points-4

- Furthermore, the perception that HIV/AIDS was no longer a threat to human life due to availability of better clinical management, may be deceptive for those in resource limited settings with weak health systems, if not put in the right perspective.

- This is because such as notion has the propensity to intensify the epidemic.

Conclusion

- The study underscores the important role of HIV knowledge in sexual risk reduction.
- Although evidence continues to suggest an increase in HIV/AIDS awareness of the general population in Nigeria.
- This has unfortunately not significantly translated to reduction in sexual risk practices, even though it has made commendable contributions in behavior modifications.

Recommedations

- Authors advocate for emphasis on peer education and curriculum-based sexuality education in schools in order to promote the right perception about HIV.

- They also call for further research to investigate the effect of the use of information and telecommunication technology with tailored short message services (SMS) and the social media in sexual risk reduction among community-based women of childbearing age in Africa.

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Thank you for Listening