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Extramarital relations and perceptions of HIV/AIDS in Nigeria*

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Abstract

Data from a 1991 survey of five Nigerian towns are used to examine currently married men's and women's perceptions of AIDS which, together with other socioeconomic factors, are then related to extramarital sexual behaviour. An overwhelming majority of the respondents have accurate information about AIDS. In particular, most associate HIV/AIDS transmission with multiple sexual partners, though only one-third of them think that the fear of AIDS has limited casual sex in their communities. About 54 per cent of men and 39 per cent of women have had extramarital relations, with 18 per cent of men and 11 per cent of women having done so in the previous week. The incidence of extramarital relations varies considerably by respondents' level of education, type of marriage, religion, and spousal closeness. More importantly, knowledge of multiple sexual partners as a risk factor for HIV/AIDS is inversely related to extramarital affairs. The study underscores the link between knowledge and behaviour, and calls for a well-articulated campaign designed to educate the populace about the threat of AIDS, with the aim of modifying both premarital and extramarital sexual behaviour, thereby reducing the risk factor for HIV through heterosexual relations which is the main mode of transmission in Nigeria.

Introduction

In the past few years, and as a consequence of the AIDS pandemic in Africa, a major research endeavour in Nigeria has focused on sexual networking. This is defined as the number of different sexual partners a sexually active individual maintains within a given period, and most of the published work relating to Nigeria is associated with Orubuloye and the Caldwells (Orubuloye, Caldwell and Caldwell 1990, 1991, 1992; Caldwell, Orubuloye and Caldwell 1991). These studies have been highly localized, and have involved relatively small samples. Nevertheless, many insightful and instructive findings have emerged from their pioneer efforts. For instance, they reveal a very high level of sexual networking among married people in the Ekiti District of Nigeria, comparable to levels in East and Southern Africa, and in Western societies; the level is higher among men than women, and higher in urban than rural areas. Furthermore, polygyny and post-partum sexual abstinence are the underlying social institutions explaining the observed high levels of sexual networking in Ekiti.

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The increasing number of HIV/AIDS cases recently reported in various states of Nigeria, and some reports of AIDS fatalities (WHO 1993; FMH&HS 1992) make these findings timely; there is a need for more and larger studies, employing more rigorous analytical techniques, to gain a deeper understanding of the risk of HIV transmission in Nigeria. In this study, I examine data on HIV/AIDS awareness and perceptions which are, together with selected socioeconomic factors, then related to recent extramarital relations among currently married men and women.

Data and methods

This study uses data collected in a 1991 study of five urban centres in Nigeria: Jos and Zaria in the north, and Ibadan, Irrua-Ekpoma, and Owerri in the south. The selected towns were divided into three fairly distinct residential zones corresponding to the social class of residents. Streets were randomly selected from each zone, and houses and households were systematically selected until the required sample size for a particular zone was attained. In each selected household, one currently married man 60 years or under, and his wife, or one of his wives in polygynous situations, were interviewed. In polygynous homes, wives were assigned numbers corresponding to their rank-order, then one number was drawn randomly and the matching wife was accordingly selected for interview. A pair of male and female fieldworkers interviewed the couples at the same time, but in different locations. Where a partner was not home, the present one was interviewed, but was requested not to discuss the topic and questions of the interview with the absent partner. Revisits were made until the questionnaire was successfully administered to the absent spouse. In all, 3,200 couples were interviewed.

The questionnaire contained a number of questions on respondents' knowledge of HIV/AIDS and their extramarital sexual behaviour. Among the questions on extramarital behaviour are the number of times the respondents engaged in extramarital sexual activity in the previous week, and in the last month; who their last sexual partner was; condom use; knowledge and perceptions of HIV/AIDS, risk factors of AIDS and precautions being taken to avoid contracting the disease. The precise wording of the knowledge questions is:

> Have you heard about the disease that makes one slim or lean, called AIDS (use local names for AIDS where applicable)? Responses: Yes/No.
>
> (For those who answered ‘Yes’)
>
> When did you hear about it first (year)?
>
> From whom or what source did you first hear about it? (open-ended)
>
> What are the means through which AIDS can be transmitted?
>
> (List all means mentioned by the respondent)
>
> Have you seen anybody suffering from AIDS? (Yes/No)
>
> What do you consider the most important precaution against the spread of AIDS? (open-ended).

Both descriptive and analytical methods were used to examine knowledge of multiplicity of sexual partners as a source of HIV/AIDS infection, and recent extramarital sexual behaviour among men and women. With the aid of logistic regression, I attempted to predict, first, respondents' knowledge that having multiple sexual partners is a risk factor for HIV/AIDS, and secondly, the likelihood of respondents having had an extramarital affair in the previous week. In particular, we want to know whether or not knowledge of the risk factors for AIDS affects high-risk behaviour. The calculation of odds ratios, by means of logistic regression enables us to examine the relative impact of each variable, controlling for

the effects of other variables in the model (Hosmer and Lemeshow 1989). A number of variables were examined in many possible models for both men and women, and the final models were chosen on the basis of parsimony. Thus, the set of variables in the models for men may be different from those for women.

The independent variables considered include current age, religion, ethnicity, level of education, type of marriage, duration of marriage, knowledge and perceptions of AIDS; socio-economic status, derived from 5-item questions on modern household items available to the respondent; and an index of spousal closeness, constructed from three 3-category[1] questions: whether partners always ate together; always slept together; and always discussed family matters. An index with values ranging from 0 to 6 was generated, which was then trichotomized into low (values 0 to 3), moderate (values 4 and 5), and high (value 6). Extramarital sexual behaviour was expected to vary among categories of these variables because of the underlying differences in social and familial norms, different exposure to modern or traditional lifestyles, and variations in emotional attachment among couples; and because accurate knowledge of the risk factors for AIDS may affect the likelihood of risky sexual behaviour.

The HIV/AIDS situation in Nigeria

Although the prevalence of HIV/AIDS appears low in Nigeria, AIDS has become a major public-health issue. According to the Federal Ministry of Health (FMH&HS 1992), the first case of AIDS in Nigeria, involving a sexually active 13-year-old girl, was identified in 1984. Few cases were reported until 1989, when 23 AIDS patients were identified. Since then, reported AIDS cases have more than doubled each year. In 1990, 90 new AIDS cases were reported throughout the country; this increased to 218 in 1991, 367 in 1992 and 212 in the first nine months of 1993 (FMH&HS 1992; WHO 1993). By the end of 1993, close to 1000 AIDS cases had been identified[2], and some 500,000 to 600,000 people are estimated to be HIV-positive (WHO 1993; FMH&HS 1992). This rapid increase notwithstanding, the disease is likely to be underreported partly because of the recency and paucity of HIV surveillance centres, and the inadequacy of testing reagents. Furthermore, the varying latency of HIV among people suggests that some HIV-infected individuals may not manifest the symptoms for months or even years, even though they can transmit the virus to others.

The demography of reported AIDS cases in Nigeria indicates that about two-thirds of sufferers are males, and that the disease is most prevalent between the ages of 20 and 39 years among both sexes, with more than 66 per cent of patients concentrated within this age bracket (WHO 1993). HIV infection and even full-blown AIDS have been reported in virtually all the states of the country. The WHO *AIDS Surveillance Report* reveals that Lagos, Enugu, Plateau, Bornu, Benue and Kaduna states are leading (in that order) in the number of reported AIDS cases. Since these states have few features in common, the low figures reported for many other states may be partly due to underreporting rather than low prevalence. The main mode of AIDS transmission in Nigeria is heterosexual sex, which accounts for more than 71 per cent of reported AIDS cases, followed by blood transfusion and infection by blood products (2.5 per cent), and vertical transmission from mother to infant (1.4 per cent). For the remaining 25 per cent of the AIDS cases the transmission mode was not or could not be specified (WHO 1993), although the likelihood of sexual transmission is high.

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1 (never=0, sometimes=1, always=2)

2 917 by September 1993

Knowledge and perceptions of HIV/AIDS

This study shows that a large majority of urban Nigerians are aware of HIV/AIDS, and have accurate knowledge of its modes of transmission. About 86 per cent of men and 79 per cent of women claimed knowledge of AIDS. The modes of transmission mentioned most frequently were casual sexual intercourse or having multiple sexual partners, and blood transfusion. However, many erroneously also mentioned handshaking, haircuts, sharing clothes, and toilets as other means through which AIDS could be transmitted. Most men and women said they had first heard about AIDS from the media, particularly radio and newspapers. Other sources of information on AIDS included friends and relatives, and medical personnel.

When respondents were asked to identify which precautions against HIV/AIDS they knew from a list of precautions read out by the interviewer, the single most important means they identified was avoiding multiple sexual partners Next came using condoms and avoiding blood transfusions (Table 1).

Table 1
Different means of preventing AIDS/HIV transmission, male and female respondents who know about AIDS (per cent)

	Men		Women	
Preventive means	**% with knowledge**	**number**	**% with knowledge**	**number**
avoid multiple sexual partners	81.8	2291	76.3	2026
use of condom	63.0	1765	54.6	1446
avoid blood transfusion	60.4	1691	55.0	1455
avoid intravenous injections	54.2	1517	46.0	1217

In a related question, the respondents were asked what they considered to be the most important precaution against AIDS transmission: the majority of both men and women considered avoidance of casual sex the most important (Table 2). The two next most important precautions were the use of condoms, and avoiding blood transfusions.

An overwhelming majority of urban Nigerians associate HIV/AIDS transmission with sexual relations, and especially with casual or multiple partners. Because it is now well established that HIV/AIDS transmission occurs through heterosexual intercourse involving an infected partner, the respondents' correct identification of maintaining one sexual partner, or avoiding casual sex, as the most important means to prevent transmission augurs well for the containment of the AIDS epidemic in Nigeria if, indeed, people's knowledge dictates their behaviour. Yet, when we asked the respondents whether they thought the fear of HIV/AIDS infection had limited casual sex in their community, only one-third each of men and women who knew about AIDS agreed. Twenty-six per cent of men and eight per cent of women thought that the fear of AIDS had not limited casual sexual relations, and 30 per cent of men and 38 per cent of women said they did not know. The rest failed to answer.

Information was further sought on the respondents' personal experience with extramarital sex in relation to their perceptions of the risk of AIDS. Nearly 54 per cent of men, and 74 per cent of women, who knew about AIDS, said they had never had extramarital relations. About 29 per cent of men and ten per cent of women had modified their sexual behaviour because of the fear of AIDS, most of them having become more selective of their extramarital sexual partners (14 per cent of men and three per cent of women), or stopped extramarital affairs completely (ten per cent of men and five per cent of women). A smaller proportion said they

now used condoms in extramarital encounters (five per cent of men and two per cent of women). It is perhaps more worrying that more than eight per cent of men and seven per cent of women replied that they did not bother about AIDS when they chose sexual partners outside their marriage. The remaining eleven per cent of men and ten per cent of women did not respond to the question.

Table 2
Most important precaution against AIDS transmission, male and female respondents who know about AIDS (per cent)

Precautions against AIDS transmission	Men		Women	
	%	number	%	number
avoid casual sex	59.6	1670	57.8	1529
abstain from sex completely	8.5	239	10.4	274
always use condom	8.4	235	6.7	178
avoid blood transfusion	5.0	139	4.5	118
avoid intravenous drug injections	1.4	38	0.8	22
combinations of above	6.9	192	10.5	278
only God can prevent AIDS	1.3	37	9.0	23
don't know/No response	0.9	250	8.5	225
Total	100.0	2800	100.0	2647

It is clear from these results that although AIDS awareness is high in urban Nigeria, a substantial number of people still engage in high-risk sexual behaviour by continuing to have casual sex, or by having multiple partners, and doing so without using condoms which have proved to offer some protection against HIV transmission (Liskin, Wharton and Blackburn 1990). The main reason why some people have not modified their sexual behaviour is their belief that AIDS is not yet common in Nigeria; many claimed not to have known or seen an AIDS patient. Others view the dangers of AIDS with resignation, arguing that one will eventually 'die of something', and so are not yet prepared to change their usual sexual behaviour because of the threat of AIDS.

Since casual sex or having multiple sexual partners is identified as the most important risk factor for HIV/AIDS, it is necessary to know if various respondent characteristics predict such knowledge. I therefore performed a logistic regression to predict knowledge that multiple sexual partners are a risk factor for AIDS transmission. The dependent variable was coded 1 if a respondent knew that having multiple sexual partners is a risk factor for AIDS, and 0 otherwise. The results for men and women are presented in Table 3. Many factors were modelled, and the table shows only the best model. It is noteworthy that nearly the same set of variables yield parsimony for both the male and female equations, the only exception being that the female model lacks one variable, religion, that appears in the male equation. The variables were selected by the forward stepwise method, but all categories (dummies) of a selected variable, irrespective of statistical significance, were entered in the final model for the sake of completeness. For instance, among men the indigenous religion category, and Jos and Zaria categories of study location, were 'forced' into the model to show the relative importance of all categories of the particular variable; the same is applicable for the Zaria category of study location among women.

Table 3
Logistic regression of knowledge that multiple sexual partners are a risk factor for AIDS, currently married men and women

	Men		Women	
Variable/category	**Coefficient**	**Odds ratio**	**Coefficient**	**Odds ratio**
Age				
< 30				
30-34	}0.441	1.554***	0.492	1.636***
35-39	0.406	1.500***	0.545	1.725***
40-49	0.263	1.301**	0.484	1.622***
50 +	0.0	1.0	}0.0	1.0
Religion				
Catholic	0.412	1.510***	Excluded from Model	
Protestant	0.227	1.254*		
Indigenous religion	0.182	0.834		
Muslim	0.0	1.0		
Education				
no schooling	0.0	1.0	0.0	1.0
primary	0.879	2.409***	0.737	2.091***
secondary	1.353	3.868***	1.209	3.350***
tertiary	1.771	5.875***	1.594	4.923***
Type of marriage				
monogamy	0.223	1.254**	0.320	1.377***
polygyny	0.0	1.0	0.0	1.0
Socioeconomic status				
low	0.0	1.0	0.0	1.0
middle	0.283	1.327**	0.291	1.337***
high	0.412	1.509***	0.415	1.514***
Study location				
Ibadan	0.633	1.883***	1.267	3.551***
Owerri	0.569	1.767***	1.203	3.328***
Jos	0.105	1.111	0.383	1.466***
Zaria	-0.087	0.917	0.040	1.040
Irrua-Ekpoma	0.0	1.0	0.0	1.0
Constant	-1.202		-1.564	
Initial model				
-2 log likelihood	3786.07		4134.32	
df	3143		3131	
Final model				
-2 log likelihood	3204.90		3369.97	
df	3127		3118	
Model X^2	581.18		764.35	
df	16		13	

Note: ***p<.001 **p<.05 *p<.10.

Catholic and Protestant men are more likely to know about the risk factors for HIV/AIDS than Muslims and members of indigenous African religions. This is probably related to the condemnation of sexual promiscuity by the church, and the increasing pulpit messages

associating HIV/AIDS with divine punishment for adultery and fornication. As would be expected, knowledge of the risk factors for HIV/AIDS increases as the level of education increases. Indeed, the odds ratios show that of all variables in the model, the one most strongly related with such knowledge is education. Men with some primary education are 2.4 times more likely to know the risk factors for AIDS than those with no formal schooling; men with secondary and tertiary education are respectively 3.9 and 5.9 times more likely. Similarly, women with primary, secondary and tertiary education are respectively 2.1, 3.4 and 4.9 times more likely to know about the risk factor for HIV/AIDS than women with no schooling. Education leads to the acquisition of information and increases the extent to which such information is processed, used and passed on to individuals or members of a social network.

Being in a monogamous marital union, instead of a polygynous situation, is associated with greater knowledge of HIV/AIDS risk factors. The odds ratios for monogamous men are 1.25 times greater than for polygymous men, while monogamous women are 1.38 times more likely to know the risk factors of AIDS than those in polygamy. Since monogamous couples are more likely to be over-represented among the modern urban elite, their superior knowledge may be related to their having a broader and more modern world view than those in polygyny, who are more likely to be older and less educated. Socioeconomic status, which is derived as a composite of modern household durables, including radio, television and car, has a strong statistically significant effect on knowledge of HIV/AIDS risk factors among both men and women. The finding is in the expected direction, and suggests the impact both of social class and of different levels of ownership of the modern means through which information is disseminated.

The location dummies compare four large cities with the smaller semi-urban town of Irrua-Ekpoma on the assumption that accurate knowledge of the risks of HIV/AIDS varies by place of residence. Among men, those interviewed in the two southern cities of Ibadan and Owerri are much more likely to know about the risk factors for AIDS than are residents of Irrua-Ekpoma. Residents of the two northern cities of Jos and Zaria are not significantly different from the reference category. The same pattern is evident among women, except that female residents of Jos differ significantly from those in Zaria and Irrua-Ekpoma in having accurate knowledge of the risk factors for HIV/AIDS. These results could be due to variations in media coverage of AIDS, and also accessibility to the media, both of which are more likely in Ibadan, Owerri and, to a lesser extent, Jos. Although the five locations are university towns, Ibadan and Owerri stand out in being predominantly literate populations, and located in highly urbanized and thickly populated parts of the country. They also appear to be more cosmopolitan than the other three locations, which apart from being less industrialized also have very large Muslim populations.

In sum, when current age is controlled, the characteristics that predict knowledge that multiple sexual partners are a risk factor for AIDS among men include education, type of marriage, socioeconomic status, religion and location of study. The same set of variables, except religion, also predict female knowledge. The next task is to predict extramarital sexual behaviour on the basis of knowledge of risk factors for AIDS as well as of these sorts of factors.

Extramarital sexual relations

Research on sexual networking in Nigeria has revealed a considerable level of extramarital sexual relations among men and women (Orubuloye et al. 1990, 1991). We asked our respondents two questions on extramarital affairs: whether or not they had ever had sexual relations with a person other than their spouses since they had first married; and whether they

had had an extramarital sexual episode in the previous week. About 46 per cent of all men and 61 per cent of all women claimed they had never had intercourse with anyone other than their partners since their marriage: in other words, about 54 per cent of men and 39 per cent of women have had extramarital relations. With respect to sexual encounters in the previous week, 18.2 per cent of men and 10.6 per cent of women reported that they had had such an encounter. The relatively high level of extramarital relations in the previous week compared with the overall level of extramarital affairs perhaps suggests the existence of a very sexually gregarious subgroup of men (and, for that matter, women), who repeatedly stray outside marriage, and a solid proportion of people who do not. As for the nature of their recent extramarital partners, 34 per cent of men mentioned girl- or woman-friends, eleven per cent mentioned free girls or prostitutes and the rest failed to identify their partners. Ten per cent of women who had had extramarital encounters in the previous week identified their last partner as a male friend, while 39 per cent said their last partner was an acquaintance; the rest did not identify their last extramarital partner. Male prostitution has not been widely reported in Nigeria, even though there are a few places in big cities where some well-to-do women go to pick up men. However, that more than one in ten men said they had had relations with free women or prostitutes suggests considerable commercialization of sex in Nigerian cities, which certainly has profound implications for STD transmission in general, and HIV/AIDS transmission in particular. The women described as 'free' include 'school-girls' in secondary and tertiary institutions, who in some cities usually linger at favourite spots soliciting sex, essentially for money to maintain their high-profile, Western lifestyles.

Table 4 displays variations in the incidence of extramarital relations since marriage, and in the previous week. For both men and women, marital infidelity tends to increase with age. This is partly because older people have passed through a longer period of exposure to the risk of extramarital sexual relations. The incidence of extramarital relations varies widely with religion, with Roman Catholics, Muslims, and members of indigenous religions being more likely to be unfaithful, and Protestants and Pentecostals being less likely. People with less education are somewhat more prone to having extramarital relations, but the results are not very firm, especially with respect to the most recent extramarital episode. Overall, polygynists are more likely ever to have had extramarital relations than monogamists, but for recent extramarital encounters, male monogamists exceed male polygynists; there is virtually no difference in recent extramarital affairs by type of marriage among women. The extent to which marriage partners are close, or are emotionally bonded, might be considered to be directly related to faithfulness in marriage. As Table 4 indicates, spousal closeness appears to have a considerable negative influence on extramarital relations, especially among women. Extramarital affairs also tend to vary by socioeconomic status. As expected, knowledge of AIDS and its risk factors have a negative impact on extramarital relations. Although Table 4 reveals considerable variations in the incidence of extramarital relations, these differences may be misleading if the variables are interrelated. As a result, the relationships are re-examined using a logistic regression model.

The multivariate analysis of extramarital relations is focused on extramarital affairs in the past week. On the one hand, lifetime extramarital affairs are more likely to be misreported; on the other, recent extramarital relations are more relevant for HIV/AIDS transmission given the recency of the pandemic. As usual, the dependent variable is dichotomous, coded 1 if a respondent reported having an extramarital affair in the previous week, and 0 otherwise. All the covariates described in Table 4 were tested in a forward stepwise logistic model using the dummy-variable format, with the best models for men and women displayed in Table 5.

Table 4
Percentage distributions of currently married men and women by two measures of extramarital relations, by sex

	Ever had affair		Affair in previous week	
Variable/category	**Men**	**Women**	**Men**	**Women**
Age				
< 30	58.9	38.3	16.3	11.8
30-34	53.0	33.6	16.0	7.4
35-39	51.2	36.2	18.9	8.1
40-49	50.7	44.8	17.6	11.9
50-60	58.0	54.0	11.2	15.3
Religion				
Muslim	51.2	41.1	15.4	10.3
Catholic	62.4	41.1	23.7	12.3
Protestant	49.2	32.0	17.7	9.6
Pentecostal	42.4	28.0	12.3	6.3
Indigenous religion	63.7	54.5	22.1	13.5
Educational level				
no schooling	65.0	58.1	16.2	10.9
primary	57.1	39.2	21.8	11.0
secondary	52.2	31.3	16.7	10.4
tertiary	46.9	25.5	17.2	9.6
Type of marriage				
monogamy	53.0	36.2	18.7	10.5
polygyny	57.4	46.4	15.7	10.8
Marital duration				
0-5 years	57.7	32.2	18.0	10.5
6-12 years	50.1	34.6	17.6	8.1
13 years +	52.5	47.7	18.8	12.1
Spousal closeness				
low	62.0	50.6	19.8	13.6
moderate	53.9	38.7	20.2	10.1
high	43.6	25.8	13.1	7.3
Socioeconomic status				
low	58.9	32.2	20.0	11.6
medium	50.3	34.6	15.6	10.0
high	44.1	47.7	16.2	8.4
Knows about AIDS				
yes	47.3	25.2	17.4	9.0
no	94.4	94.8	23.2	16.5
Condom prevents AIDS transmission				
knows	50.4	25.6	17.1	7.6
doesn't know	57.8	50.4	19.4	13.0
Many sexual partners as risk factor				
knows	47.0	23.0	15.6	7.7
doesn't know	70.3	66.7	24.3	15.3
Total	53.7	39.3	18.2	10.6
	(3143)	(3135)	(3143)	(3135)

Only five factors significantly affect recent extramarital affairs among men, namely religion, education, type of marriage, degree of spousal closeness, and knowledge of multiple sexual partners as a risk factor for HIV/AIDS. For women current age, education, spousal closeness, religion, awareness of AIDS, and knowledge of the risk factors for HIV/AIDS yield the most parsimonious model. Among women the odds of having extramarital affairs in the past week are lower in the central age groups, 30-34 and 35-39, than at ages 40 years and over, and under 30.

The higher level of extramarital affairs among older women is probably related to their stage in the life cycle; most of their children have grown up or left home so they have more time to socialize outside the home. Having completed their families, many are actively involved in economic pursuits such as government contracts and large scale commercial enterprises, and are therefore wealthy; the common tag of 'cash-madam' is associated with such women who, apart from being rich, also exhibit independence in their personal behaviour. Many probably maintain relatively weak relationships with their spouses, who may have taken younger wives. The higher rate of extramarital sexual activities among women under 30 may reflect what Orubuloye et al. (1990, 1991) have described as something of a female sexual revolution, which has occurred in the last two decades in Nigeria, whereby women now increasingly view sexual relationships as a form of recreation. Perhaps also, younger wives may maintain sexual links with premarital sexual mates or friends (Isiugo-Abanihe 1993b).

It is perhaps for the same reasons that religion, despite the condemnation by various religious groups of marital infidelity, proves not to be an important predictor of female extramarital affairs. Among men, in contrast, Catholics are about 79 per cent more likely than Muslims to have had an extramarital affair in the previous week, while members of the indigenous religions are about 49 per cent more likely. It is clear from these results that many Christians, especially Catholics, fail to follow the teachings of their religion regarding marital fidelity.

Irrespective of sex, education presents a positive association with extramarital relations, with a higher probability of engaging in extramarital affairs the higher one's level of education. However, a monotonic increase in the rate of extramarital affairs with level of education is demonstrated only by women. Among men, the probability of having had extramarital relations in the previous week is high for those with secondary education, higher for those with some tertiary education, and highest for those with primary education. The female pattern is consistent with female liberation and empowerment, while the male pattern may be related to income. Primary-school-educated men include a large number of merchants, entrepreneurs and skilled and semi-skilled workers, many of whom are considered wealthy by Nigerian standards, and can, therefore, afford the cash which many of their extramarital partners demand. On their part, men with some tertiary education constitute the social and government elite whose work experience is more likely to expose them to high risks of extramarital overtures.

The odds of having extramarital relations do not significantly differ between women in monogamous unions and those who are in polygynous unions. However, male monogamists are significantly more likely to be currently engaged in extramarital relations than their polygynous counterparts, who have the luxury of changing sexual partners within marriage. Conversely, if the only wife in a monogamous marriage is away from home, or unavailable through sickness or during a period of post-partum sexual abstinence, a husband who cannot exercise continence must look for a sexual partner outside the home.

Table 5
Logistic regression of extramarital affair in the previous week, currently married males and females

	Men		Women	
Variable/category	**Coefficient**	**Odds ratio**	**Coefficient**	**Odds ratio**
Age				
< 30	Excluded from model		0.023	1.023
30-34			-0.461	0.631**
35-39			-0.390	0.677*
40+			0.0	1.0
Religion				
Catholic	0.583	1.791***	Excluded from model	
Protestant	0.071	1.074		
Indigenous religion	0.396	1.485***		
Muslim	0.0	1.0		
Education				
No schooling	0.0	1.0	0.0	1.0
primary	0.535	1.708***	0.405	1.499**
secondary	0.341	1.406*	0.525	1.691**
tertiary	0.407	1.502**	0.625	1.860***
Marriage				
monogamy	0.285	1.330*	Excluded from model	
polygyny	0.0	1.0		
Spousal closeness				
low	0.0	1.0	0.0	1.0
moderate	-0.249	0.838	-0.448	0.639**
high	-0.541	0.582***	-0.798	0.450***
Knows about AIDS				
yes	Excluded from model		-0.332	0.717*
no			0.0	1.0
Knows many sex partners are AIDS risk factor				
yes	-0.651	0.522***	-0.616	0.540***
no	0.0	1.0	0.0	1.0
Constant	-1.766		-1.563	
Initial model				
- 2 log likelihood	2979.07		2087.47	
df	3143		3131	
Final model				
- 2 log likelihood	2885.10		2009.94	
df	3133		3121	
Model X^2	93.97		77.53	
df	10		10	

Note:***p<.001; **p<.05; *p<.10.

Emotional bonding between spouses, or spousal closeness, clearly shows a negative relationship with the incidence of extramarital relations. For instance, men who share a strong emotional bond with their partners are about 58 per cent as likely to have had extramarital relations in the previous week as those with a weak bond. Similarly, women who are strongly bonded with their husbands are 45 per cent as likely to have had extramarital relations in the previous week as women who are weakly bonded, while those who are moderately bonded are about 64 per cent as likely. Partners who are emotionally distant may be more likely to reject each other's sexual advances, and less likely to derive satisfaction from such encounters when they do take place: consequently, sexual satisfaction may be sought outside the marital home.

The relation between knowledge and behaviour has long been a popular topic for family-planning research. The present data set offers a rare opportunity to relate knowledge of AIDS and of the multiple-sexual-partnership route of HIV/AIDS transmission to extramarital sexual behaviour. As Table 5 shows, women who know about AIDS are less likely to engage in extramarital relations[3]. Moreover, knowledge of multiple sexual partners as a risk factor for AIDS is inversely and very strongly related to current incidence of extramarital affairs among both men and women. Indeed, using the forward stepwise regression procedure in exploratory models, the variable was the single most powerful predictor of recent extramarital sexual activity for both men and women[4].

The multivariate analysis shows that both men and women who know that having multiple sexual partners constitutes a risk factor for HIV/AIDS are about half as likely to have engaged in extramarital sex in the previous week as people who have no knowledge of this route of AIDS transmission. Elsewhere I have shown that knowledge that the condom offers protection against HIV/AIDS transmission affects current use of the device (Isiugo-Abanihe 1992). The odds ratio of condom use for men who know about its protective ability is 2.35 times greater than for men without such knowledge. Given recent increases in the numbers of HIV patients and AIDS-related deaths in Nigeria (FMH&HS 1992; WHO 1993), and the finding that knowledge does appear to affect behaviour, the need to educate the populace on the risk factors of the disease deserves priority attention.

An observation in respect of the relation between education and extramarital sexual behaviour is in order. The analysis indicates that net of knowledge of sexual risk factors and the confounding effects of other variables in the model, education exerts a positive effect on extramarital sexual relations. Ordinarily, one would have expected an inverse association between the two variables given that education is an important predictor of knowledge of risk factors of such behaviour. Furthermore, that education does not give the expected inverse relation with behaviour is probably a function of the fact that many educated people are likely to adopt precautionary measures to avoid contacting sexually transmitted diseases generally, such as using a condom. Indeed, this study indicates that about 54 per cent and 37 per cent of men who had tertiary and secondary education respectively had ever used a condom, in comparison with about one-quarter of men who had only primary education and just four per cent of those with no formal education. Current use figures are 40 per cent for tertiary, 19 per cent for secondary, 15 per cent for primary and three per cent for those with no schooling.

It could also be that people fail to act according to their knowledge. People may be willing to take a chance in order to derive momentary satisfaction, a situation which is

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3 The relation is also inverse for men, though not significant.

4 In the male model, for example, it has a likelihood (minus twice the log-likelihood) of 2947, and goodness of fit of 3142, both indicating that the model classifies or fits the observed data well, or that the sample results are highly likely given the parameter estimates (Hosmer and Lemeshow 1989).

perhaps underscored by the belief that 'AIDS is not in Nigeria yet'. Many Nigerians believe that 'AIDS is a white man's disease' that was introduced to east Africa in the course of their popular 'safaris'. That many people are yet to know or see an AIDS patient suggests that the seriousness of the disease may not have struck home among most Nigerians. Thus, the discriminatory impact of educational attainment with respect to extramarital relations is still somewhat obscured.

Conclusion

Studies of sexual behaviour in Nigeria have long focused primarily on single women[5], probably because unintended pregnancy and its consequences were considered the main, if not the only, negative consequences of such behaviour (Isiugo-Abanihe 1993a). People often gossiped about married people who engaged in extramarital sexual relations; but probably because such practices were usually discreet and could be a prelude to a polygynous relationship, extramarital affairs were generally disregarded and received little research interest (Isiugo-Abanihe 1993b). However, the advent of AIDS has kindled interest in sexual behaviour both before and outside marriage in an attempt to identify the numbers and characteristics of men and women at risk of contracting AIDS, especially through heterosexual activity, and to understand differences between the sexual behaviour of different groups (Isiugo-Abanihe 1993b; Orubuloye et al**.** 1992, 1993). This is perhaps all the more important given novel social realities and the widening gap between what the old and the young consider to be acceptable sexual practice (Isiugo-Abanihe 1993b).

An overwhelming majority of respondents had accurate information about HIV/AIDS. In particular, they associated AIDS transmission largely with casual sex or having multiple sexual partners, though only one-third thought that the fear of contracting the disease had limited casual sex in their community. Although some people claimed to have personally modified their sexual behaviour outside marriage, many were not bothered by the AIDS epidemic, and continued to have extramarital relations, and without the benefit of the condom even though a majority identified condoms as offering protection against the transmission of HIV/AIDS. Through the use of logit regression, age, education, type of marriage, socioeconomic status, and city of residence were identified as the main predictors of knowledge of the risk factors for HIV/AIDS.

Extramarital relations involving multiple or casual partners, either in the past or currently, are not limited to a few married men and women. More than one-half of currently married men and two out of five women had had extramarital relations. The prevalence of recent extramarital affairs is also high, with almost one in five men and more than one in ten women having had extramarital relations in the past week.

Multivariate analysis reveals important variations in the incidence of extramarital sexual activity in various subgroups. Catholic men and members of the indigenous religions were more likely to engage in extramarital affairs than Protestants and Muslims. People who had been to school were more likely to engage in extramarital affairs than people who had not. Male monogamists were more likely than polygymists to be currently having extramarital affairs. Emotional bonding between spouses, or spousal closeness, had an inverse relationship with extramarital affairs, spouses who were not close being more likely to seek sexual satisfaction away from home. Finally, the logit model reveals that men and women who knew that multiple sexual partners were a risk factor for HIV/AIDS were less likely to have had extramarital relations in the past week; this suggests an important link between

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[5] See, for example Omu et al.1981; Oronsaye, Ogbeide and Unuigde 1982; Oronsaye and Odiase 1983; Gyepi-Garbrah 1985; Nichols et al. 1986; Feyisetan and Pebley 1989; Makinwa-Adebusoye 1992.

knowledge and behaviour. There is, therefore, an urgent need for a national program designed to collect current and comprehensive data on HIV/AIDS incidence throughout the country, and to inform, educate and communicate the HIV/AIDS message.

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