

**SEXUAL BEHAVIOR AND
SEXUAL NETWORKING AMONG
MARRIED MEN IN
OYO STATE, NIGERIA**

BY

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ABSTRACT

In this community based study, baseline data were collected on the sexual practices of married men from rural and urban Oyo state, Nigeria.

Sexually networking was present, and occurred with regular and non-regular partners. The paramount reason for such behavior was a lack of restraint on the man's part. This was aggravated by periods of traditional female sexual proscription especially during postpartum abstinence. The men were not always able to identify high-risk partners in terms of acquiring HIV/AIDS/STI. Though high-risk behavior was present in a large proportion of men, contacts with commercial sex worker was found to be low.

Furthermore, the advantage of the condom as a barrier method in the control of STI was not well known. Consistent condom use was largely absent when with regular partners and very low when with non-regular partners. HIV rates were highest in the younger (<30years) and older men (50 years and over) and HIV testing was not widely available.

Young age and polygamy were consistently predictive of having multiple partners and associated with an increased risk for acquiring and spreading STI including HIV/AIDS.

Perception of wealth and the value system are underlying factors associated with acquiring multiple partners.

Men's sexual networking as shown in this study is likely to have a profound negative effect on the health of their female partners especially those in polygamous relationships. Such activities facilitate the spread of HIV/AIDS and STI and faithfulness to partners rather than multiple sexual contacts should be encouraged among the men. Reproductive health needs of the women who are steady girl friends need to be met also. In this regard, the single women who are largely adolescents and young adults require reproduction

health education. Men need to be counseled on correct and consistent use of condom. With the HIV/AIDS scourge, it is not just desirable but becomes imperative that men be empowered to play a more active and responsible role in promoting the health and welfare of family members and in preventing disease.

STATEMENT OF THE PROBLEM

Statistics provided by the World Health Organization on HIV/AIDS show that three persons are infected globally every minute, suggesting that sexual behavior of people have not changed (UNAIDS 1999).

Nigeria has been placed as one of the top four countries after Uganda, India and Brazil which need more aggressive intervention to curb this global menace. While high risk groups in USA for HIV/AIDS include the homosexuals, bisexuals and intravenous drug users (IDU), the highest infection rates (95%) in Nigeria are found in heterosexual men in normal sexual relationships (UNAIDS 1998,1999) and the majority of female AIDS victims have been infected by their husbands (Caldwell et al 1993). More recent reports when compared with data from the National Surveillance studies of 1991/1992 and 1993/1994 show a substantial increase in HIV infections in Nigeria and even suggest the presence of rural HIV epidemic (Esu-Williams et al 1997, Federal Ministry of Health 1998). In addition, about 5.4% of the total population (about 5 million Nigerians) are currently documented to have been infected with HIV (Federal Ministry of Health 1999). Even though conventional family structures and mores exist side by side, there has been evidence to support the existence of extensive sexual networking among Yorubas in selected parts of the South Western zone of the country (Orubuloye,Caldwell and Caldwell 1991, Oyeneye and Kawonise 1993). It is not clear to what extent the traditional African system has contributed to this behavior, as many men still hold the belief that post pubertal male continence is unnatural and even unhealthy. Coupled with this, is the institution of polygyny which being central in Nigeria's socio-cultural set up, underlies the male tendency to seek multiple sexual partners. Sex is traditionally proscribed for women during pregnancy, breast-feeding and in some cases menopause leaving married men with no sexual access to a wife for varied lengths of periods. What do men do in these periods? The hardest hit by the AIDS/HIV scourge in Nigeria are families. As human behavior plays a dominant role in the transmission of all sexually transmitted diseases, in the promotion of reproductive health among families and disease prevention, it is required that a more comprehensive understanding of the implications of male sexual networking be fully determined and documented. There is not enough information in Nigeria on the basic sexual behavior and patterns of sexual networking among men. Very few studies are community based and none of such studies have carried out HIV testing. Intervention studies are largely absent. It has been shown that programs to prevent the spread of HIV work best as a package which addresses multiple factors and there is sufficient evidence to show that prevention does work (UNAIDS 1998). There is a need therefore not only to determine factors associated with sexual networking, but to go a step further through focused intervention package to increase the men's knowledge of HIV/AID and STD and how to avoid it and to maintain healthful practices with regards their sexuality.

General Objective

The general objective of this study was to obtain reliable information on the pattern and extent of sexual networking among married men in Oyo State Nigeria and to design and implement an appropriate behavioral intervention program.

Specifically

1. To determine the prevalence and pattern of sexual networking among married men in Oyo State.

2. To identify the factors including demographic and socio-cultural factors which are associated with networking
3. To develop an appropriate Information, Education, Communication and Counseling (IEC & C) program to meet the needs of married men in these states.
4. To predict using logistic regression, the factors that contribute to sexual networking and with this come up with a profile of the types of man likely to network.

HYPOTHESIS

1. With well focused intervention, behavioral change in men viz a viz sexual networking will be achieved.
2. There are no rural-urban differences in prevalence and the pattern of sexual networking.
3. There are no differences in prevalence and pattern of networking among men with none, low or high levels of education.

Literature Review

Human immunodeficiency virus (HIV) and Acquired Immune Deficiency syndrome AIDS continues to spread around the world and it is the leading cause of death in adults (UNAIDS 1998). By the end of 1999, over 33 million people were infected with the virus, while 11.7 million people around the world had already lost their lives to the disease. Over 600,000 children have been infected with HIV through their mothers before or during birth or through breastfeeding and 89% of people with HIV live in Sub-Saharan Africa and the developing countries of Asia. In Nigeria, the number of infected children, some 400,000, exceeds that of many countries in the world. In Cote d'Ivoire, it was reported that one adult in 10 already lives with HIV. More than 600,000 persons are infected in Zimbabwe alone and in Botswana, HIV prevalence is said to exceed 18% (UNAIDS 1998). The first AIDS case in Nigeria was identified in 1986 in a 15 year old hawker of kola nut in the Northern part of the country. Since then HIV prevalence has risen gradually to the present 5.4% (Akinsete 1997, Oyeneye and Kawonise 1993, Ransome-Kuti 1998, Federal Ministry of Health 1999). Also reported in Nigeria are high levels of other sexually transmitted diseases and the high rates at which new and unprotected sexual encounters occur. These infections have been reported in heterosexual relationships in Africa where between 35 - 57 per cent of cases are women (Van De Perie et al 1984, Piot et al 1984, Serwadda et al 1984). It is therefore necessary to take into account the institution such as marriage when dealing with HIV/AIDS in Nigeria.

Marriage is a respected institution in any traditional society and stabilizes the society. Marriage institution is largely supported by religion on the one hand and tradition on the other hand though it appears that in the Nigerian context both play a role in maintaining the institution as marriage is largely universal. Sexuality is a major aspect of marriage as well as the birth of children and both provide a stable bond between the couples. Over 60 per cent of Christian leaders oppose polygyny. They draw upon the fact that God provided Adam with only one wife while less than 40 per cent favor polygyny arguing that it is a man's nature and some base their argument on the old testament. Majority of the Muslim

leaders in contrast favor polygyny but recount that it is permitted only in such restricted circumstances that men give equal treatment to wives (Orubuloye, Cadwell and Cadwell 1993). Traditional norms have maintained a strong hold on the marriage. Page and Lesthaeghe (1981) reported that in the traditional society, wives were to refrain from sexual relations for three or more years after a birth to ensure survival of the child. In addition, Yoruba custom prohibits marital relations during lactation. The belief is that the child will be affected in an adverse way by "poisoned" maternal milk (Matthew 1950, Page and Lesthaeghe 1981). In a study on sexual networking in Ekiti district, Orubuloye et al (1991) found male extramarital relations were highest in monogamous marriages and were frequently explained by wives periods of postpartum sexual abstinence and it was concluded that cultural practices were underlying social institutions that explained much of the sexual networking in Ekiti at that time. In order to understand the diffusion of HIV infection in Nigeria, there is a need to examine the degree of and the nature of sexual networking. What is sexual networking? Havanon et al in 1993 described sexual networking as the practice of having sexual relations with two or more partners either serially or concurrently and within a specified time period. This is similar to what had been used by Orubuloye et al (1991). The activity is global and in Thailand, the common network pattern for men according to Havanon, et al 1993) was a combination of commercial and non-commercial sexual relationships. These men also claimed that they used condom when they engaged in sex with prostitutes, however, when the prostitute was frequently patronized, condom use became low. None of the men were aware that their partners may link them up to a larger network of sexual contacts with associated risks of HIV infection and there was no difference found between men in the different socio-economic strata. In Ghana, Anarfi and Awusabo (1993) reported that 18% of males had multiple partners and sexual networking was not frowned upon. In Ghana's traditional system, sexual activity of married couples is disturbed by menstruation, period of lactation and postpartum abstinence. In Freetown, West Africa, extra marital relationships seems to be highly indiscriminated and respondents, in a survey by Adegbola et al (1993) were unperturbed by the threat of AIDS. At least 73.8 per cent of married males were involved in extra marital relationships. In Kenya East Africa, 16% of husbands reported extra-marital relations (Caldwell et al 1989). In Calabar, south east Nigeria, widespread networking has been reported and about 50% of men interviewed were involved in such activity. Condom use was low and the authors did not notice any change in the number of partners before AIDS and since the coming of AIDS (Ogbuagu and Charles 1993). In Ekiti, Nigeria, according to Orubuloye et al (1991) over 66% of men were engaged in networking and the men gave several justifications for having extramarital sex. In Ijebu Ode, Oyeneye et al (1993) found that most men engaged in multiple sexual relations for fun to have a nice time, despite their awareness of the AIDS scourge. Unlike polygyny, extra marital partners generally meet outside the residence and many may be unknown to the wife. Sexually transmitted diseases are often associated with the extra-marital relations and condom use, which protects against pregnancy and STD may be the ideal contraceptive method. Condom use was found to be higher with extra-marital relations when the partners were new but the use declined as they got more familiar (Havanon and Bennet 1993, Renne 1993). In conclusion sexual networking among married men is not uncommon globally.

METHODOLOGY

STUDY AREA

A southwestern State in Nigeria, namely Oyo State was used for this study. Oyo States was created in 1976 out of the old Western Region and inhabitants of this state are predominantly Yoruba in ethnic origin, one of the largest ethnic groups in Nigeria. Oyo State with a population of 4,274,616 is largely urban and has 32 Local Government Areas (LGA). Ibadan one of Nigeria's oldest state capitals serves as its capital. Oyo state can boast of every type of educational institution and Ibadan is industrialized. large proportions of the people are involved in subsistent farming, with secondary attachments to trade and crafts. Traditional occupations also thrive especially in the rural areas. The institution of marriage is highly regarded by both the traditional and modern families in Yorubaland and four major types of marriages are identified: Namely, the customary, Church/civil, Muslim and mutual consent. Even though polygyny is practiced by about 43% of the families in Nigeria, and 38% of families in south west Nigeria, in most rural areas of the southwestern zone and among the uneducated, polygyny is much more widely practiced (Federal Office of Statistics 1992).

Study Design

This community- based cross sectional study was carried out over a period of 12 calendar months using a multistage, multiphase epidemiological design.

In the 1st stage, demographic and baseline data were collected on all men in the study population. Information on male sexuality, sexual networking, HIV/AIDS, sexually Transmitted Diseases (STD) prevention and condom use were also collected. Attitudes to marriage, family formation, cultural and traditional norms particularly in relation to current sexual practices during pregnancy, breast feeding, postpartum period and menopause were determined. This data was detailed and collected in two parts:

In the first part, data was collected by in-depth focus group discussion (FGD). Information on what men do and what men say they do, was elicited. Why men network when they network and with whom they network was also discussed. The discussions were essentially unstructured and conducted by a trained male Health Educator who is familiar with the method and language. The men's attitudes to, perception, cultural and individual beliefs to sexual networking were also determined. A detailed factor analysis of the FGD was carried out in 3 stages. In the first stage, the data was coded, then, in the second stage it was categorized and then emerging themes were refined.

In the second part of data collection, a structured, open and closed-ended precoded questionnaire was developed using information derived from the analyzed FGD. The second stage of the study, which will be the core of the project, is the intervention phase, which will be carried out after analysis is the data. This intervention program through the IEC & C module is intended to bring about a behavioral change in men, promoting safe sex. In order to achieve sustainability, peers will be trained to monitor, re-inform and educate and the state's Primary Health Care department will be involved in the intervention process and are expected to maintain information /education in the areas long after the program has ended.

Sample Size

Sample Size was determined using the formula $n = \frac{Z^2 pq}{d^2}$

where $Z = 1.96$ (2 standard deviation)
 $p = 0.50$ (proportion of men estimated to be engaged in networking)
 $q = 1 - 0.05$
 $d =$ degree of accuracy required (0.05)
 $n = \frac{1.96^2 \times 0.50 \times 0.50}{(0.05)^2}$
 $= \frac{3.84 \times 0.50 \times 0.50}{0.0025}$
 $= 384.$

To remove cluster effect, the number was doubled = 768 and rounded up to 1000.

Sampling

The data was collected over a period of five calendar months from April to August 1999, using a multistage, cluster design. The local government areas served as clusters. In the first stage, the 32 LGA were stratified into urban, rural, and rural-rural areas. In the second stage, fifty percent of the LGA from each of the 3 strata were randomly selected for the study. Purposeful sampling of men in the randomly selected LGA was carried out and efforts were made to ensure socio-economic representation. A total of 3,204 married men were enrolled and interviewed by trained interviewers.

The Research Tool

The tool used was a standardised questionnaire designed in English and translated into the indigenous language, and back translated to English to ensure that the original meaning was retained. This tool was developed after analysis of focus group discussions. Questions were asked in a conversational style and in order to encourage frank revelation about sensitive matters, names were not recorded and respondents were assured that their responses would remain anonymous.

Eight (8) male focus group discussions (4 rural and 4 urban groups of 8 - 10 men per group) and 2 women groups (one urban and one rural) were constituted. These groups were constituted based on location, level of education and age.

HIV screening was carried out on a randomly selected subset of men in the study population subsequent to their interviews. The blood samples were screened using Immunocomb test kits; an EIA based test kit (Organics laboratory, Israel). Informed consent was obtained from the men who were all individually counseled before and after testing. Confirmation of the results was done at the University College Hospital, Ibadan where the men who tested positive were referred. The ethical committee of the States Ministry of Health approved the protocol.

The study was restricted to include married men who had a wife that had delivered a baby in the last 36 months prior to the study.

Marriage was defined as customary, church/civil, Muslim law and mutual consent of both families. Socio-economic class was classified as higher and lower. This was based on a modification of the Registrar General classification for England and Wales. It is dependent on the occupation within the community and not a classification of individuals (Registrar General, 1971). The higher socio-economic class includes the professionals, the top civil servants, and technical and skilled workers. The lower includes the partially skilled and the unskilled. Male sexual networking is defined as sexual relations with two or more women either serially or concurrently within a specified period (Orubuloye 1991, Havanon et al, 1993).

RESULTS

A total of 3204 married men (2001 urban and 1203 rural) were interviewed.

Table 1 shows the background characteristics of respondents by place of residence and type of marriage. Monogamous marriages were predominant in both the urban and rural locations ($p < 0.00001$), though polygamy was more prevalent in the rural area. There was no urban/rural difference in the mean number of wives of polygamists ($p > 0.05$).

Polygamous men had significantly more children than monogamous men in both the rural and urban areas ($p < 0.0001$ and $p < 0.0001$), respectively. No urban/rural difference was observed in the number of children the monogamists had, but rural polygamists had significantly more children than urban polygamists ($p < 0.01$). The urban men were generally better educated than the rural men. More polygamous men had no formal education in both the rural and urban areas compared with the monogamous men ($p < 0.00001$). Though polygamy was seen in both Christianity and Islam, significantly more Christians were monogamous in both the rural and urban areas ($p < 0.0001$). The predominant religion in the rural area was Islam.

FOCUS GROUP DISCUSSION

Emerging themes from the focus group discussions among the men showed that traditional tenets were strongly upheld even among the educated. Polygamy was accepted by many as 'The tradition' but not many men were prepared to be polygamous due to social, religious or economic constraints. Having extra marital partners was also acceptable but not recommended. Reasons put forward by the men for having extra marital affairs include unavailability of the wife and the fact that they were unable to remain for long without sex. Men were fully aware of the risks entailed when with extra marital partners. Periods when men are married and do not have conjugal relations with the wives were discussed and include: Pregnancy (for some), the postpartum period, extended travel and a bad wife. Men reiterated that in these periods, many men look for other sexual partners. Men also added that it was impossible to a healthy man to abstain from sex for extended periods; that men "have the sexual urge and they have to be satisfied" if the man is to remain healthy. They also claimed that women unlike men are able to

Table 1. Characteristics of respondents by place of residence and type of marriage.

CHARACTERISTICS	URBAN			RURAL		
	Mono- gamous	Poly - gamous	p-value	Mono- gamous	Poly- gamous	p-value
	n=1555	n=446		n=678	n=524	
Type of marriage (%)	77.7	22.3	<0.0001	56.4	43.6	<0.0001
Mean number of wives (±SD)	1.0	2.3 (± 0.7)		1.0	2.6 (± 3.8)	
Median age at first marriage (years)	27	26	>0.05	25	25	>0.05
Mean number of children (±SD)	2.7 (±1.5)	6.0 (±2.9)	<0.001	2.9 (± 1.6)	6.7 (± 3.6)	<0.001
Age group (%)						
15-19	1.0	0.2		1.0	0	
20-29	25.4	4.5		30.8	25.9	
30-39	48.0	35.9		40.4	32.4	
40-49	19.9	37.0		5.3	17.7	
50-59	6.1	17.9		1.8	11.2	
60-69	0.5	3.8		0.3	4.8	
70+	0	0.7		0	0	
Education (%)						
Nil formal	2.0	9.2	<0.0001	22.7	45.8	<0.0001
Primary	21.7	39.2	<0.0001	38.3	38.2	>0.05
Secondary	48.1	39.9	<0.01	31.9	14.6	<0.0001
Post secondary/no univ	15.1	6.9	<0.0001	4.9	1.1	<0.001
University	12.0	3.6	<0.0001	1.9	0	-
Missing	1.0	1.1		0.3	0	-
Religion (%)						
Christianity	45.1	22.3	<0.0001	26.5	13.3	<0.0001
Islam	54.3	75.3	<0.0001	71.7	80.8	<0.0001
Traditional/others	0.6	1.1	>0.05	1.8	5.9	<0.001

SD, standard deviation

abstain and endure but healthy men could not except they were fasting. The few men who disagreed on this issue, that men could not abstain for long, stood out as being very religious (Christian faith).

About commercial sex workers (CSW), the younger men thought it was okay to go to CSW for the reasons they had already put forward such as unavailability of the wife and a need to have sex. Many men do not however go to CSW as they are considered a risk for acquiring sexually transmitted infections. They further reiterated that if a man was in need of a sexual partner, a CSW was handy, and not as expensive as maintaining a girlfriend. For this reason they did not want CSW to be banned. They however did not think that commercial sex should be legalized. They further added that CSW did not satisfy them more than their wives did.

Sex is not usually discussed by couples and the men felt that the women must not make the first move in bed.

Discussions with the elderly men were different in that the men were more likely to be faithful to their wives, did not feel threatened by long sexual continence and the rural men thought that the solution to the problem of long abstinence was to get another wife which some of them did. The older man did not generally approve of CSW for any reason and concluded that relations with them increased their risks of acquiring HIV/AIDS/STI. Condom was widely known to all the groups of men interviewed but the men complained that they were many fake brands in the market. The ones with thinner membrane, multi color and the shorter ones were considered as fake and unreliable. They were generally considered expensive and the rural men thought that they would not stand the test of time (when reused were likely to tear!). They claimed that condoms with brand name of “durex” were the original. The rural men believed that the condom was made for the educated.

Focus group discussion with the women: The women did not think that the men should blame them for their extra marital affairs. They unanimously agreed that marital sexual contacts were reduced for most and absent for a few during pregnancy. Some rural women even thought that having sex in pregnancy could result in the delivery of a deformed baby.

Most rural women thought the postpartum abstinence period should be between one and a half to two years, while the urban women thought that 6 months was long enough. When asked to discuss what their husbands would do in this period, the general consensus was that the men abstain with them or go for another wife. They disagreed with the men that long postpartum abstinence would affect the man physically and certainly not mentally as some men thought, but that it could put a strain on their marriage and force the men to go out. One lady thought it could cause backache. Most women wanted the proscriptions done away with, and wanted shorter postpartum abstinence periods.

SEXUAL NETWORKING OUTSIDE PREGNANCY AND THE POSTPARTUM PERIOD

Networking was present in 1349 (42.1 percent) of all men in the study population outside pregnancy and the postpartum period. The rate was higher in the rural area 590/1203 (49 percent) when compared with that in the urban area 792/2001 (39.6 percent). The difference was significant ($\chi^2 = 16.88, p < 0.0001$).

PREGNANCY PERIOD

More urban men 82.5 percent (1650) than rural men 60.3 percent (726) reported having sex with pregnant wife in the last pregnancy ($p < 0.0001$). Before pregnancy, mean frequency of monthly sexual contact was 9.3 ± 5.9 in the urban area and during pregnancy this declined to 5.7 ± 4.3 per month. The difference was significant ($p < 0.0001$). In the rural area, mean frequency of monthly sexual contact before pregnancy was 11.3 ± 6.5 , and this dropped to 6.7 ± 5.3 during pregnancy ($p < 0.0001$). Frequency of sexual contact was also higher in the rural area before and during pregnancy when compared with the urban area ($p < 0.0001$ and $p < 0.0001$), respectively.

Sexual networking during pregnancy

Table 2 shows the pattern of sexual networking during wife's pregnancy. Significantly more monogamous than polygamous men had sex with their pregnant wives only, in both locations. When all non-regular and multiple partners (considered as high-risk) were merged together for each category of men, there was no significant difference in the proportion of men with these high-risk partners for urban polygamous and rural monogamous men ($p > 0.05$). There was also no difference in the proportion of polygamous men in both locations who had high-risk partners ($p > 0.05$). The rural polygamous men however had significantly fewer high-risk partners than the urban monogamous men ($p < 0.01$). The urban polygamous men also had fewer high-risk (non-regular and multiple) sexual partners than urban monogamous men ($p < 0.05$). The regular partners of monogamous men were steady girlfriends, while the regular partners of polygamous men were the other wives and the steady girlfriends. Significantly more polygamous men when compared with monogamous men had multiple sexual partners in this period ($p < 0.001$). In general, more men had other sexual partners when the wife was pregnant (43.7%) compared with the period outside pregnancy (42.1%). The difference was however not significant ($p > 0.05$).

Table 2. Sexual partners during wife's last pregnancy by place of residence

Sexual partners	URBAN			RURAL		
	Mono-gamous ¹ %	Poly-gamous %	p-value	Mono-gamous %	Poly-gamous %	p-value
Pregnant wife only	65.1 (995)	41.4 (183)	<0.0001	62.7 (420)	34.7 (180)	<0.0001
Other partners						
Regular ²	75.1 (401)	82.2 (213)	<0.05	63.2 (158)	82.9 (281)	<0.0001
Non Regular ³	21.7 (116)	8.9 (23)	>0.05	29.6 (74)	7.7 (26)	<0.05
Multiple ⁴	3.2 (17)	8.9 (23)	>0.05	7.2 (18)	9.4 (32)	>0.05
All other partners	34.9 (534)	58.6 (259)	<0.0001	37.3 (250)	65.3 (339)	<0.0001
All partners	100 (1529)	100 (442)		100 (675)	100 (519)	

1 Sample size is presented in parenthesis

2 Regular includes another wife and steady girlfriend.

3 Non-regular includes commercial sex worker, new girlfriend and casual contact.

4 Had two or more partners including regular and non-regular partners

POSTPARTUM PERIOD

Median duration of postpartum abstinence (PPA) among urban monogamous and polygamous men was 6 months and 12 months, respectively. It was 18 months for rural monogamous and 24 months for rural polygamous men.

Sexual networking in postpartum period

Table 3 shows sexual partners in the last postpartum abstinence period. More monogamous than polygamous men abstained from sex in the two locations in this period. There was no difference in the percentage of men with high-risk (non-regular and multiple) partners among the urban monogamous and polygamous men ($p>0.05$), among the monogamous men in the two locations ($p>0.05$), and among the rural monogamous and urban polygamous men ($p>0.05$). Significantly more polygamous men in the urban location had high-risk partners than their rural counterpart ($p<0.05$). In addition,

significantly more men (48%) in both locations had other sexual partners in the postpartum period when compared with the period outside postpartum (42.1%) ($p < 0.001$). Sexual networking with non-regular and multiple partners occurred also more commonly in the postpartum period than in pregnancy (11.9% vs 10.4%) respectively ($p < 0.01$). Significantly more polygamous (9.2%) than monogamous (4.3%) men had multiple partners in this period ($P < 0.001$).

Table 3. Sexual partners during wife's last postpartum abstinence period by residence and type of marriage.

Sexual partners	URBAN			RURAL		
	Mono-gamous ¹	Poly-gamous	p-value	Mono-gamous	Poly-gamous	p-value
	%	%		%	%	
No partner	59.6 (913)	34.2 (151)	<0.0001	58.6 (395)	33.1 (174)	<0.0001
Other partners						
Regular ²	73.3 (454)	76.6 (222)	>0.05	69.5 (194)	83.5 (293)	<0.0001
Non Regular ³	23.6 (146)	14.1 (41)	>0.05	23.3 (65)	7.4 (26)	>0.05
Multiple ⁴	3.1 (19)	9.3 (27)	>0.05	7.2 (20)	9.1 (32)	>0.05
All other partners	40.4 (619)	65.8 (290)	<0.0001	41.4 (279)	66.9 (351)	<0.0001
All partners	100 (1532)	100 (441)		100 (674)	100 (525)	

1 Sample size is presented in parenthesis.

2 Regular includes another wife and steady girlfriend

3 Non-regular includes commercial sex worker, new girlfriend and casual contact.

4 Two or more partners including regular and non-regular partners

Multiple Regression Analysis

In order to determine to what extent variations in sexual behavior can be explained by differences in social and demographic characteristics of married men, multiple logistic regression analyses were performed on the variables studied. In the preliminary analysis, multiple logistic analyses were carried out, differentiating the men in both locations by the type of marriage. There were generally no significant differences in the behavior pattern by type of marriage in the two locations; hence the data is presented by location only.

Sex with pregnant wife:

The odds of having sex with the pregnant wife depended on the age of the man and the younger men in the two locations, were more likely than the older men (50 and above) to have sex with the pregnant wife. Urban men with secondary education were also more likely to have sex in this period. Having sex with other women reduced the chances of the men having sex with the pregnant wife in the rural area. (Table 4).

Sex with other women when wife was pregnant

The odds of having sex with other women when wife is pregnant depended on the age and level of level of education of the man in the urban area, where those under 30 years and men with lower education (nil, primary, and secondary) were more likely to have sex with other women in this period. Polygamy in both the urban and rural locations also significantly increased the likelihood of having sex with someone else. Men who had sex with the pregnant wife were also less likely to have sex with someone else in the same period. Having a steady girlfriend reduced the likelihood of going to other women in both the locations (Table 5).

Sex with others women in postpartum period

In the urban location, young age and a wife whose age was under 40 years was predictive of having sex with someone else in the postpartum abstinence period. Polygamy increased the likelihood of men having sex with someone else, and men with higher occupation, and urban men with more children were more likely to have someone else while the wife was abstaining. (Table 6).

Table 4. Adjusted odds ratio of having sex with pregnant wife.

VARIABLES	URBAN		RURAL	
	OR	(95% CI) p-value	OR	(95% CI) p-value
Age (years)			NS	
<30	1.8	(1.2-2.7) < 0.01		
30-39	2.4	(1.8-3.5) <0.0001		
40-49	1.9	(1.2-2.8) <0.001		
50+	1.0			
Educational level			NS	
Nil formal	0.7	(0.4-1.4) >0.05		
Primary	1.1	(0.7-1.7) >0.05		
Secondary	1.8	(1.2-2.8) <0.01		
Post secondary	1.0			
Having sex with other women	NS			
Yes			0.03	(0.02-0.04) <0.0001
No			1.0	
Total predictions correct	0.72		0.74	

NS, variable not significant at the 5% level

The following variables were not significant: occupation, type of marriage, religion, age at marriage, number of children, and age of the wife.

Table 5. Adjusted odds-ratio of having sex with someone else when wife is pregnant.

VARIABLES	URBAN		RURAL	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Age in years				
<30	1.8 (1.1-2.9)	<0.05		NS
30-39	1.5 (0.9-2.3)	>0.05		
40-49	1.4 (0.9-2.3)	>0.05		
50+	1.0			
Education				NS
Nil formal	1.8 (1.05-3.2)	<0.05		
Primary	1.5 (1.09-1.9)	<0.05		
Secondary	1.1 (1.5-1.9)	<0.05		
Post secondary	1.0			
Number of wives				
Monogamous	1.0		1.0	
Polygamous	2.2 (1.8-2.8)	<0.0001	2.2 (1.7-2.7)	<0.0001
Having sex with pregnant wife				
Yes	0.8 (0.7-0.9)	<0.01	0.8 (0.7-0.9)	<0.01
No	1.0		1.0	
Having steady girlfriend				
Yes	0.14 (0.11-0.18)	<0.0001	0.16 (0.1-0.23)	<0.0001
No	1.0		1.0	
Total predictions correct	0.63		0.60	

NS; variable not significant at the 5% level.

The following variables were not significant: age at marriage, occupation, the number of children, religion and age of his wife.

Table 6. Adjusted odds ratio of having sex with someone else when wife is in postpartum abstinence period.

VARIABLES	URBAN		RURAL	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Occupation				
Lower	1.0		1.0	
Higher	1.2 (1.03-1.4)	<0.05	1.6 (1.07-2.5)	<0.05
Number of children				
0-3	1.0		NS	
>3	1.1 (1.06-1.2)	<0.0001		
Number of wives				
Monogamous	1.0		1.0	
Polygamous	1.9 (1.5-2.4)	<0.0001	1.9 (1.5-2.4)	<0.0001
Age (years)				
<30	7.7 (3.7-16.2)	<0.0001	NS	
30-39	3.6 (1.9-7.1)	<0.0001		
40-49	1.6 (0.8-3.0)	>0.05		
50+	1.0			
Age of first wife (yr.)				
15-19	1.1 (2.1-3.8)	<0.05		
20-29	6.2 (1.6-23.5)	<0.01		
30-39	4.1 (1.9-8.4)	<0.0001		
40-49	1.0			
Total predictions correct	0.55		0.54	

NS, variable not significant at the 5% level.

The following variables were not significant: Education, religion, age of youngest wife, and age at marriage.

EXTRA MARITAL PARTNERS

Commercial sex workers

Reported visits to CSW in the last 6 months prior to the survey showed that more urban (4.4%), than rural men (2.4%) patronized CSW. Following multiple regression analysis, having a SGF significantly protected the man from visiting CSW (results not shown). Table 7 shows the visits of the men to CSW by location. Fear of the CSW

getting pregnant and holding the man responsible was higher in the rural location than it was in the urban location. More urban men expressed fear of getting an infection following contacts with CSW. Use of condom was essentially the same among urban and rural men during the last visit.

Table 7. Visits to commercial sex workers by married men in Oyo State, Nigeria (1999).

	URBAN	RURAL	p-value
	N=88 %	N=29 %	
Mean number of Visits (\pm SD) in Last 6 months	2.3 (\pm 2.4)	2.2 (\pm 1.1)	>0.05
Use of condom At last visit	46.6	48.3	>0.05
Fear of pregnancy	11.4	20.7	>0.05
Fear of Infection	56.8	20.7	>0.05

Steady girlfriends

Of the 3204 married men from randomly selected urban and rural locations, 1232 (38.5%) had regular extra-marital partners in the last six months prior to the study called steady girlfriends (SGF). Significantly more monogamous men in the urban locations 660 (42.5%), compared with their urban counterpart in polygamous unions 166 (37.2%) had SGF ($p<0.05$). Similarly, in the rural area, more men in monogamous unions 269 (39.7%) had SGF compared with their polygamous counterpart 137 (26.1%) ($p<0.00001$). Table 8 shows the marital status of the SGF by location and type of marriage. The SGF of the monogamous men were more likely to be single, while men in polygamous marriages typically had SGF who were married. Polygamous men in both locations were also more likely than their monogamous counterparts to have SGF who were divorced, separated or widowed and to have multiple partners. The

highest mean number of SGF was seen among rural men in polygamous marriages ($1.88 \pm \text{SD } 1.3$). This was followed by the urban polygamous men (1.66 ± 1.4), the urban monogamous men (1.64 ± 1.7) and the rural monogamous men (1.57 ± 1.2). In the rural area the polygamous men had significantly more partners than the monogamous men ($p < 0.0001$). There was no significant difference in the number of girlfriends the urban men had ($p > 0.05$).

Table 9 shows the number of sexual partners of the SGF, as reported by the men by location and type of marriage. The vast majority of men from both locations did not know how many other sexual partners their SGF had. Only 13% of the men thought they were the only partners.

Multiple regression analysis

In order to determine to what extent variations in sexual behavior (having a SGF) can be explained by differences in social and demographic characteristics of the married men, logistic regression analysis was performed on the variables studied. The young age of the men in both locations and secondary education in the urban location significantly increased the risk of having steady girlfriends. The young age of the first wife in the rural area was protective (Table 10).

Table 9. Marital status of steady girlfriends of married men in Oyo state (1999).

STATUS	URBAN			RURAL		
	monogamous N= 660 (%)	polygamous N= 166 (%)	p-value	monogamous N= 269 (%)	polygamous N= 137 (%)	p-value
Single	59.1	31.9	<0.0001	61.3	29.2	<0.00001
Married	21.7	33.7	<0.01	24.9	44.5	<0.0001
Divorced	5.5	12.0	<0.01	6.3	11.7	>0.05
Separated	3.9	6.6	>0.05	1.9	2.2	>0.05
Widowed	0.5	0.6	>0.05	0.4	0.7	>0.05
Multiple (2 or more)	2.9	12.7	<0.00001	4.8	11.7	<0.01
No response	6.5	3.0	>0.05	0.4	-	
TOTAL	42.5	37.2	<0.05	39.7	26.1	<0.0001

Table 10. Adjusted Odds ratio (OR) of having a steady girlfriend by location.

Variables categories	URBAN		RURAL	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Age (years)				
< 30	3.9 (1.9 – 8.3) ^a	<0.0001	NS	
30-39	2.7 (1.4 – 5.3)	<0.01		
40-49	2.1 (1.1 – 3.8)	<0.05		
55+	1.0			
Education				
Nil formal	0.9 (0.5 – 1.8)	>0.05	NS	
Primary	1.4 (0.9 – 1.9)	>0.05		
Secondary	1.9 (1.4 – 2.6)	<0.001		
Post secondary/ University	1.0			
Age of First wife (years)				
15-19	1.5 (0.7 – 2.8)	>0.05	0.3 (0.1 – 0.6)	<0.0001
20-29	3.1 (0.7 – 12.9)	>0.05	0.2 (0.03 – 0.8)	<0.05
30-39	2.1 (1.0 – 4.7)	<0.05	0.4 (0.2 – 1.1)	>0.05
40+	1.0		1.0	

X² for linear trend : a=13.08, p<0.001.

Type of marriage, occupation of man, age of youngest wife, age at marriage, religion, knowledge about HIV/AIDS transmission and number of children were not significant (NS) at the 5% level.

CONDOM USE

Following analysis of focus group discussions, condom use with regular partners was largely absent. Almost all the urban men had heard of the condom 1982/2001 (99.1%). Only 65.5% had ever used the condom. In the rural area the situation was similar with 86.6% of the men reporting having heard about the condom and fewer men (38.3%) recounting ever using the condom. Analysis of the data showed that consistent condom use with extra marital partners was also very low among urban and rural men (6.3% vs 1.7%) respectively (p<0.0001). The vast majority of men were having unprotected vaginal sex.

KNOWLEDGE ON HIV/AIDS and Behavior

From the Focus group discussions, knowledge on HIV/AIDS was not low. Most men were able to talk on the subject relating its transmission from man to man through sexual relationships. Analysis of quantitative data showed that 94.7% urban and 91.9% rural

men were aware of at least one mode of HIV transmission. Over 27% urban and over 28% rural men thought AIDS was curable or did not know. In addition, 18.1% rural and 8.0% urban men did not think that AIDS was preventable. When the men were asked whether condoms could be used to reduce the transmission of AIDS, only 69.7% urban men and 49% rural men were in the affirmative. There were 10.8% urban and 13.6% rural men who did not think the condom could help prevent AIDS transmission.

When the men were asked why men take risks with extra marital sexual partners, the following major reasons were given and are presented in Table 11 below.

Table 11. Reasons for having extra marital partners

Reason	Urban %	Rural %
Cannot keep to one woman	47.0	60.1
Not satisfied with the wife	18.5	9.6
It is normal behavior	9.1	7.1
Temptation	6.6	3.8
Wife breastfeeding or pregnant	3.1	7.4
Unstable home	2.5	1.4
No fear of God	1.9	1.0
Don't know / combination of factors/ others	11.3	9.6

A large proportion of men said that they could not keep to one woman and this was the main reason for having extra marital partners.

LIFETIME HISTORY OF SEXUALLY TRANSMITTED INFECTION AND PLACE OF TREATMENT

Self-reported lifetime history of sexually STI, source of most recent infection and place of treatment are shown in Table 12. A total of 759 (23.7percent) of the men reported a history of STI. In both locations, significantly more polygamous than monogamous men reported an STI and the SGF were largely responsible for the spread of infection to the men. Other high-risk partners were the new girlfriends (NGF) and the wife in the rural area. In the rural area, the wives were responsible for more infections than were the CSW according to the men's report.

When asked about place of treatment for STI, the private clinics topped the list in the urban area. In contrast, the rural men were more likely to patronize the herbalists. Treatment seeking behavior for government hospital was similar and generally low in both locations. The treatment-seeking behavior was similar regardless of the type of marriage in the urban area. This finding also held for the rural area.

Table 12. Self reported lifetime history of STI, source of infection and place of treatment.

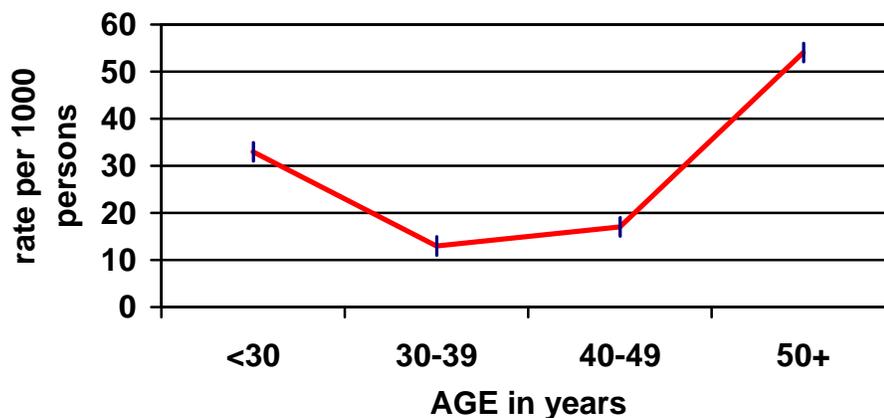
	URBAN			RURAL		
	monogamous N=1555	polygamous N=446	p-value	monogamous N=678	polygamous N=525	p-value
	%	%		%	%	
History of STI	20.5	29.1	<0.001	22.4	30.1	<0.01
Source of most Recent infection						
SGF	41.7	35.4	>0.05	43.4	41.8	>0.05
NGF	33.9	31.5	>0.05	32.9	22.2	<0.0001
Wife	1.6	6.9	<0.01	11.8	21.5	<0.05
CSW	17.6	17.7	>0.05	7.2	8.2	>0.05
Multiple	5.3	6.9	>0.05	13.3	5.9	<0.05
No response	-	1.5		1.3	0.6	
Place of treatment For most recent Infection						
Private	34.2	26.2	>0.05	28.3	16.5	<0.05
Herbalists	17.6	30.8	<0.0001	33.6	33.5	>0.05
Govt. clinic	15.4	10.0	>0.05	15.1	11.4	>0.05
STI clinic	3.1	-		0.7	0.6	>0.05
Chemist/self medication	20.4	13.8	>0.05	9.2	10.8	>0.05
Combined Herb/Govt/ Chem.	6.3	13.8	<0.01	10.5	22.7	<0.01
Combined Private/self /Chemist	0.3	0.8	>0.05	0.7	1.3	>0.05
Others	2.7	4.6	>0.05	1.9	3.2	>0.05

HIV POSITIVE MEN

Of the 220 men screened, 5 (2.3%) were positive. Four men tested positive for HIV-1, while the fifth man was positive for HIV-2. All the men who tested positive were from the lower socio-economic class and the youngest was 26 years, while the oldest man was 54 years (mean 43 ± 11.4). They had all slept with one or more women who were not their wife/wives in the last month prior to the survey. The HIV rates in men under 30 years was 33 per 1000, for men 30 to 39 years was 13 per 1000, for men 40 to 49 years was 17 per 1000 and 54 per 1000 in the older men 50 years and above. None of these men reported visits to CSW in the last 6 months prior to the survey. The HIV rate was higher in the urban than rural locations (28 versus 13 per 1000) respectively. The rate was higher in the men who gave a lifetime history of STI than in those who did not (49 vs 13 per 1000); and was higher in the men who had ever-used condoms than those who had never-used condoms (28 vs 18 per 1000). They also had more girlfriends in the last 6 months than those who tested negative (29 vs 12 per 1000). The men who tested positive were more likely to be non-Christians than those who were negative (33 vs 19 per 1000); and they were less likely to have ever-received condom counseling (19 vs 83 per 1000) Due to the small numbers, none of the relationships were statistically significant ($p > 0.05$).

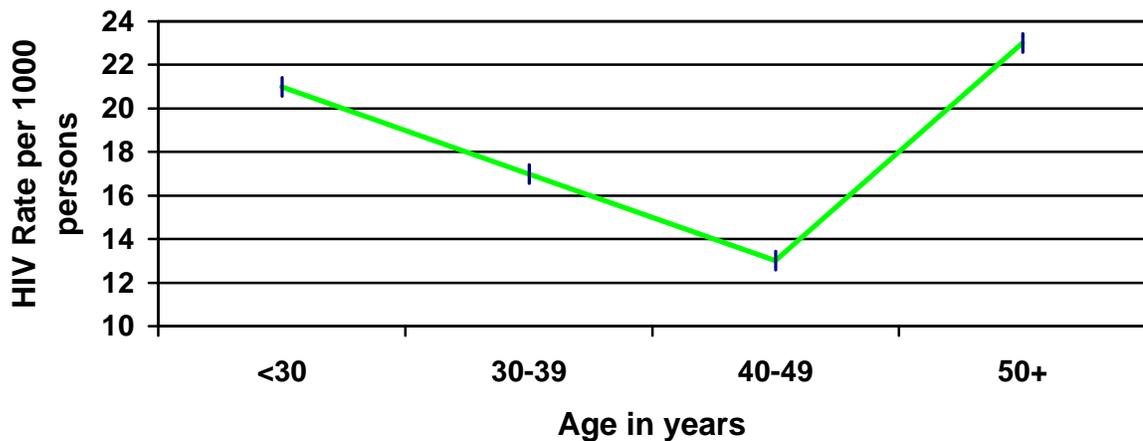
Figure 1 shows the unadjusted HIV rates according to age of the men. Men 50 years and above had the highest rate followed by the younger men under 30 years. Those 20-29 had the lowest unadjusted rates.

Fig. 1. HIV Rate among married men in Oyo state Nigeria, 1999.



The rates depict a J-shaped distribution with the older men (50 years and above) and the younger men under 30 years having the highest risk. The HIV rates were age-adjusted as shown in Figure 2 below, using Oyo state population as standard. Highest rate was again seen in the older men over 50 years followed by those under 30.

Figure 2. Adjusted HIV rate among married men in Oyo state, Nigeria. 1999.



Discussions

HIV/AIDS remains one of the most severe emerging diseases of the 20th century. This infection, like other sexually transmitted infections, is driven by individual behaviors. These behaviors may in turn be driven by poverty, by unequal relationships between men and women or by cultural and religious norms that leave people with little control over their exposure to the AIDS virus (UNAIDS 1999). Cultural situations that create the vulnerability to HIV infection have not been adequately studied and understanding of these are important for proper control of the disease. There is a general consensus requesting that, further studies be conducted on male sexual practices to enhance the understanding of the behavior, to develop policies aimed at preventing sexually transmitted infections, and to define targets for new interventions (Viadno and Earp 2000).

Extra marital sexual activities by women are generally frowned upon in Nigeria. On the other hand, for men, such activities were described by the men in Ekiti district as legitimate and most justified, if their wives are pregnant or breastfeeding(Orubuloye et al 1991, Orubuloye 1997). From the data presented, sexual networking occurred much more outside the periods of pregnancy and the postpartum. In addition, during the focus group discussions, the men did not rationalize their activities by blaming only these periods for their sexual behavior. The major reason given for having extra marital partners in the two locations simply put, by the men, was that they could not keep to one woman. This response was particularly high in the rural area. Over 40% of the men were involved in sexual networking regardless of whether the wife was pregnant or nursing. This study finding, is in contrast to what was found by Orubuloye and Caldwell (1991) in Ekiti district, where the men attributed their networking solely to the proscriptive periods. This highlights the need to address male sexuality in terms of responsibility. While information on the sexual activity of the female partners is beyond the scope of this paper, there is evidence to suggest that the networking is much more widespread among men than women. For many heterosexual women in Oyo state, Nigeria, the

sexual practices of their male partners are likely to be the primary source of risk for infection with HIV or other sexually transmitted infections. Soskolne et al (1991), Caldwell et al (1993), Choi et al (1994), Kapiga et al (1994), Viadno and Earp (2000) reported similar findings in their studies of the sexual practices of heterosexual men in other locations within and outside Africa.

Polygyny on the scale still found in Nigeria has been sustained by many factors among which is that desire to have multiple partners. Proscription against sexual relations in pregnancy and while breastfeeding in contrast to what was described by Orubuloye et al (1991) in the Ekiti district was not the major cause of sexual networking in Oyo State but from the focus group discussions were contributory to their acquiring of new wives. Other factors which appear to promote sexual networking include the substantial delay of male first marriage. From the data presented, though rural men married a little earlier than urban men, the majority did not marry until they were in their mid-twenties. This could create a situation where adult men are single and sexually active. From the data presented, we found that sexual networking occurred during pregnancy among both monogamous and polygamous men. Networking was, however, found to be significantly higher in the postpartum period, not only among the monogamous but also among the polygamous men suggesting also that reduced and absent marital coitus may be contributory to male sexual networking in this community. Long postpartum abstinence is said to allow breastfeeding to continue, as it was widely believed that semen poisons breast milk and kills the baby (Matthew 1950, Page and Lesthaege, 1981). The sole aim of this practice was to prevent pregnancy. In a community where male continence is deemed unnatural, and even hazardous to their health, it is not surprising to find higher levels of sexual networking in this period. Family planning education and availability of family planning services in both rural and urban areas could help to reduce sexual networking during postpartum abstinence. This would allow marital coitus to resume earlier while preventing unwanted pregnancy. A multivariate analysis explored the association between the risk of having sex with other women when wife is pregnant, controlling for demographic and socio-economic characteristics. Lower educational status in the urban area was associated with increased sexual networking in pregnancy. Higher education appears to be protective, as the more educated men are likely to be better informed about the HIV epidemic and its dangers.

Having steady girlfriends was a phenomenon seen in both monogamous and polygamous marriages and the majority of extra marital partners were steady girlfriends. Some of these steady girlfriends later become a higher order wife. Having steady girlfriends appears to protect the men from going to non-regular, high-risk partners. The problems these steady girl friends create are discussed later in this paper. The odds of having someone else, when the wife was in the postpartum abstinence period and unavailable was dependent on occupational status of the man in the rural areas, where the men of higher occupational status were more likely to network. This may be because these men have higher earning power and use their higher disposable income to support sexual networking. These men are also likely to have many children, since wealth is perceived in the rural areas, as have many children.

Urban men with wives under 40 years were also more likely to seek other women for sex in the postpartum period. Plausible explanations for this include the fact that urban men acquire the additional wives much later than the rural men, and the postpartum period is a time when men do acquire other women. A cursory look at the data would suggest that polygamy protects against indiscriminate sexual behavior in the culturally proscribed periods, but the converse may in fact be true. While both polygamous and monogamous men have extramarital partners in these periods, the monogamous men were more likely to have only one sexual partner (i.e. the wife) when she was pregnant and also abstain with the wife in the postpartum period, adjusting by having a shorter duration of abstinence. Polygamous men, when compared with monogamous men, in each location were more likely to have concurrent partners (the other wife/wives) and from the data presented were also more likely to be in high-risk, multiple partnerships. These partners included regular and non-regular partners. Partner mixing (with long-term regular partners such as wives and steady girlfriends) and short term partners (casual and commercial sex workers) in the absence of protected sex are known to amplify HIV spread. Partner mixing was generally worse in polygamous marriages. In situations where the steady girlfriend or polygamous wife does not live with the man, it is not unlikely to find these women having other sexual partners thereby increasing their risk of acquiring infections which can be carried back home to the husband. For instance, Orubuloye et al (1991) found that rural polygamous wives were two and a half times as likely to seek outside partners as were monogamous wives, while in the urban area, they were one and a half times as likely to do so. The authors noted further that the younger wives were most likely to have extra-marital affairs. To recapitulate, the present analysis confirms that there is some association between the culturally proscribed female abstinence periods and male extra marital affairs. Networking is more widespread in the postpartum period than in the period of pregnancy, when some marital coitus still takes place. Sexual networking with multiple partners is more prevalent in the rural than the urban areas. The common network pattern was a combination of regular and non-regular partners with the regular partners being in the majority. The steady girlfriends form the single largest group of regular extra marital partners.

In this study 38.5 percent of the married men had regular extra-marital partners called SGF. Large proportions of the men did not know how many other sexual partners their SGF had. In addition, the proportion of men in both locations who visited CSW was low compared to those who kept SGF. The men who reported a history of STI were more likely to identify their SGF and wives (regular contacts) as their source of infection, than they were the CSW. Review of literature shows that the regular partners are usually considered safe in terms of acquiring and spreading STI (Crael et al 1995, Siriwasin et al 1998, Hunter et al 1994). This was not the case in this study. In this regard, biases against the wife cannot be ruled out. However, from the data presented there appears to be some degree of internal consistency as many of the men, especially those in polygamous marriages reported that they had SGF who were married.

Findings from Tanzania in Africa with a higher HIV prevalence rate also shows relatively low contacts with CSW as found in this study (Munguti et al 1997). There is a need therefore to look beyond this “traditional” high-risk group of women, particularly in this

community and develop structures that can meet the needs of the regular partners who would not normally be classified as high-risk by the men, but who constitute a risk to them and subsequently to their families. In-depth analysis of the focus group discussion, which preceded the questionnaire survey showed that the men generally believed that by nature, a man cannot keep to one woman except some higher force is keeping him from doing so, such as religious restrictions and poor health. The SGF were carefully differentiated from CSW in that they were not usually available to other men and though they received gifts in cash and kind from these men, many of them later become another wife. This to them was not the case with CSW. The SGF are of reproductive age and can be given health education at the primary health care level especially during routine visits to antenatal, immunization or family planning clinics. Single women who are likely to be adolescents and young adults constitute a major problem in this regard and attempts should be made to meet their reproductive health needs also.

It is generally known that sexually transmitted diseases are under-reported in Nigeria (Federal Office of Statistics 1992, Lawoyin et al 2000). Many factors may be contributory, one of which includes the presence of asymptomatic infections. In December 1992, The Federal Ministry of Health reported 32,613 cases of STI excluding AIDS. It was ranked as the seventh most reported disease that year (Federal Ministry of Health 1992). While 23.7 percent of the men in this survey reported a history of STI, over 70 percent of them went to private hospitals, herbalists or received over the counter treatment and self-medication. These facilities are currently less likely than the government owned facilities and STI clinics to notify the appropriate health authorities of such infections and more than two-thirds of STI can be said to go unreported in Oyo State. Current concerns which have to be addressed with this HIV epidemic include the inability of some of the widely patronized facilities to adequately diagnose and treat STI, as well as provide adequate counseling support for the patients. Control of STI has been shown by Bosu (1999) and Gray et al (1999) to lower the burden of HIV at the individual and community level. Attempts should therefore be made to improve the ability of these facilities to diagnose, treat and report STI, if treatment-seeking behavior cannot be changed.

From the data presented, 2.3 percent of the men screened positive for HIV. None of the men were aware of their status prior to this study as HIV testing is expensive and not widely available. The study rate was similar to the rate reported for Oyo State at the time of the study in 1999 (Federal Ministry of Health 1999). The men who tested positive were more likely to have multiple partners and to have used condoms than were those who tested negative. This apparently paradoxical finding is in agreement with that of several researchers (Mbizo et al 1994, Kapiga 1996, Dubois-Arber et al 1997, Civic 1999). Men who engage in high-risk behavior are likely to be aware of the risks they are taking and use condoms. Condom counseling on the other hand was associated with lower HIV rate. A finding that suggests that condom availability and promotion alone are not sufficient to prevent HIV infection. In addition, men need to be taught how to use the condom correctly and consistently in order to achieve effective prevention of STI including HIV. Information on male condom behavior is generally lacking.

UNAIDS/WHO reported no condom rates for men in their latest Epidemiological fact sheet on Nigeria (UNAIDS 1998).

The older men had the highest HIV rate which may suggest that the infection had been

there for a longer duration. The high rate in the youngest group of men is a cause for concern and attention should be paid to these men. These younger men have already been shown to be more likely to have multiple partners.

Conclusions derived from the analysis on the HIV positive men were unfortunately limited due to the small numbers. The data however suggest that high-risk profiles exist but this needs to be confirmed in larger sample surveys.

CONCLUSION AND RECOMMENDATIONS

Married men from rural and urban Oyo state, Nigeria, sexually network with regular and non-regular partners. The regular partners were in the majority. The paramount reason for such behavior was a lack of restraint on the man's part. This was aggravated by not being satisfied with the wife and periods of traditional female sexual proscription especially during postpartum abstinence. The men were not always able to identify high-risk partners in terms of who could give them HIV/AIDS/STI, and contacts with CSW was low. Furthermore, the advantage of the condom as a barrier method in the control of STI was not well known. Consistent condom use was largely absent when with regular partners and very low when with non-regular partners. HIV rates were highest in the younger (<30years) and older men (50 years and over) and HIV testing was not widely available.

Young age and polygamy were consistently predictive of having multiple partners and an increased risk for acquiring and spreading STI including HIV/AIDS. Perception of wealth and the value system are underlying factors associated with acquiring multiple partners. Preventive interventions therefore need to be culturally and socially specific in order to be effective.

There is a need to look beyond the "traditional" high-risk females and put structures in place that could meet the need of the other women (that is, the regular partners called steady girl friends) who constitute a risk to the men and their families. In this regard, it becomes necessary to specifically address the reproductive health needs of the married and single women. The men also need to be counseled on using the condom consistently and correctly. Men need to be counseled on the need to remain faithful to their partners, a behavior, which is necessary, before any significant improvements in infection rates are expected. It is not just desirable but becomes imperative that men be empowered to play a more active and responsible role in promoting the health and welfare of family members and in preventing disease. That, there is a rapidly closing window of opportunity to carry out interventions is an understatement, as Oyo State is, like many other states in Nigeria at the brink of an epidemic. The intervention measures, howbeit simple, might halt and reduce the spread of the HIV infection in Nigeria.

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