

Pre-Marital HIV testing in Couples from Faith-Based Organisations: experience in Port Harcourt, Nigeria

*C. I. Akani MBBS, FICS, FWACS, **O. Erhabor AMLS, AIBMS, BMLS, MSc, ***S. Babatunde MBBS, Cert Epid.
Department of *Obstetrics and Gynaecology, **Haematology and ***Preventive and Social Medicine,
University Of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria.

ABSTRACT

Background: This descriptive cross-sectional study was conducted among prospective couples referred from Faith-Based Organisations in Port Harcourt, Nigeria for pre-marital HIV screening. The study sought to establish the sero-prevalence of human immunodeficiency virus (HIV) in this peculiar study group.

Methods: A total of 84 healthy heterosexual couples who required pre-marital HIV screening were tested between January 2000 and December 2003 using a Double ELISA confirmatory test of Immunocomb® and Genscreen® HIV I&II Kits.

Results: Amongst the 168 individuals tested, 35 (20.8%) were found positive. Sero-prevalence was significantly higher among females 23 (27.4%) compared to males 12 (14.3%). Infection rate was highest in the 25–29 years group (29.7%, n=22) and lowest in those of 35–39 years (6.1%, n=2), though this difference was not statistically significant (p -value=0.058). Infection rate was significantly higher among females (p -value=0.036); among prospective couples from Orthodox churches (p -value=0.021); couples with prolonged courtship (>6 months) (p -value=0.0001); couples with history of premarital sex (p -value=0.0001); and couples with history of cohabitation (p -value=0.0001).

Conclusion: Our findings prompt a wake-up call for faith-based organizations (FBOs) to urgently initiate or be more receptive of measures that emphasize behavioural and social changes amongst members. Government and non-governmental organizations should organise capacity building training for religious based organizations to enable them cope with the challenges of HIV/AIDS. The outcomes of this study further underscores the value of voluntary counselling and confidential HIV testing and especially pre- and post-test counselling as the basis of pre-marital HIV testing.

KEYWORDS: Pre marital; HIV testing; Faith based organisations; Nigeria.

Paper accepted for publication 17th December 2004.

INTRODUCTION

The epidemic of acquired immunodeficiency syndrome (AIDS) caused by infection with human immune deficiency virus (HIV) has remained a major public health problem worldwide, wreaking devastation on millions of children and on their families and communities. Since the first cases were recognized in the United States¹, it is documented that an estimated 23 million out of the 33 million people living with HIV worldwide, are in sub-Saharan Africa².

Over 1 million children are living with HIV, contracted predominantly through infection from their mothers, and out of the then ten countries worldwide with the greatest number of HIV infected children, the top nine were in sub-Saharan Africa³. In Nigeria the prevalence of HIV has been increasing steadily from 1.8% in 1991, 3.8% in 1993, 4.5% in 1996, 5.4% in 1999, 5.8% in 2001 and declined to 5.0% in 2003⁴. In most developing countries 60% of all new HIV infections are among people under age 25 years with females outnumbering males in the ratio 2:1⁵.

In Nigeria as in the rest of the world, the age of sexual debut is dropping as more and more young people engage in premarital sex, and have multiple sex partners⁶. The society commonly attributes this to the erosion of moral African values that places emphasis on chastity which has been abandoned for 'permissive' Western culture and attitudes to sexual issues⁷. Thus the fight against HIV/AIDS must rest firmly on preventive programmes which emphasizes on a combination of behavioural and social

Correspondence: Mr. O. Erhabor

changes⁸. Faith-based organizations (FBO's) particularly in high incidence countries are beginning to respond to the challenges of HIV by insisting on mandatory pre-marriage testing before prospective couples can be joined in marriage. Although this measure seems drastic, it is important since early diagnosis of infection may facilitate prompt and effective counselling and treatment with antiretroviral drugs.

In this study we sought to investigate the sero-epidemiology of HIV, among healthy prospective couples in Port Harcourt, a metropolitan city in the heart of the oil and gas industry, and with one of the fastest proliferation of churches in Nigeria.

MATERIALS AND METHODS

Subjects

All persons presenting to the University of Port Harcourt Teaching Hospital (UPTH) from churches and Faith-Based Organizations within Port Harcourt municipality for the purpose of premarital HIV testing between January 2000 to December 2003 constituted the subjects for this study. Socio-demographic data relating to age, sex, history of premarital sex, cohabitation, history of medical risk factors for HIV: surgery and blood transfusion, and courting period were obtained by means of an anonymous questionnaire. Informed consent was obtained from all subjects. Participants were offered confidential pre- and post-test counselling, even though results were required to be reported to the churches.

Sample Collection and Laboratory Methods

Five millilitres of blood were collected from each participant by venepuncture. The blood specimen were allowed to clot and then centrifuged at 1000g for 10 minutes. Serum samples were separated and stored at -20°C until analyzed. Each serum sample was screened for the presence of antibodies to HIV by a double ELISA confirmatory test using a WHO approved Immunocomb HIV I & II kits (Organics, Israel)- an enzyme immunoassay (EIA) test for the qualitative and differential diagnosis of HIV in human serum or plasma. Initially reactive samples were rescreened in duplicates using the Genscreen HIV I & II kits

(Bio Rad, France). This utilizes highly purified immunodominant antigen of the core and envelop proteins to HIV 1, and an immunodominant epitome of the HIV 2 envelop prepared by peptide synthesis to ensure specificity. HBsAg testing was carried out using the commercially available Clinotech HBsAg kit (Clinotech Diagnostics, Canada). Initially reactive sample were confirmed using the Biotec enzyme linked immunosorbent assay (ELISA) kits (Trinity Biotec, Ireland).

Statistical Method

Data collected were entered and analyzed using a multipurpose statistical programme for personal computer – Epi Info version 6. Statistical analysis of mean, standard deviation was used for continuous variables. Chi square analysis was used to assess significant differences between groups. A P-value of 0.05 was considered significant for all statistical comparison.

RESULTS

A total of 84 couples, that is, 168 participants were tested for HIV within the study period. This number was made up of 84 males and 84 females, mean age 30.44 ± 5.03 years. Out of the 168 participants tested, 35 (20.8%) were positive. The highest HIV-infection burden occurred among the 25 to 29 years age group (29.7%) while the lowest occurred in the 35 to 39 years age group (6.1%) as shown in Figure 1, though this difference was not statistically significant ($\chi^2=9.11$, p -value=0.058). The prevalence of HBsAg obtained among study participants was 4 (2.38%) while the prevalence of HBsAg among those HIV-infected was 4 (11.4%).

HIV-1 was the predominant viral subtype accounting for but 1 (97.1%) of the positive test.

Breakdown of HIV prevalence by gender, denomination and courting period is shown in Table I. The sero-prevalence of HIV was significantly higher in females 27.4% compared to males 14.3% ($P < 0.05$), and among subjects from orthodox churches 25.6% compared to 17.0% from the Pentecostals ($P < 0.02$). Also HIV prevalence was significantly higher in subjects who had longer courtship (> 6 months) compared to those who courted for

< 6 months (37.1% vs 9.2%, P-value < 0.0001).

Results of medical and sexual risk factors are shown in Table II. Blood transfusion and surgical history were not found in any of the subject. The prevalence of HIV was significantly higher in subjects who

reported history of premarital sex (96.9%). Sero-prevalence of HIV was higher in subjects with history of premarital cohabitation (95%). History of premarital sex was higher among intending couples who cohabited (62.5%) compared to those who did not (37.5%).

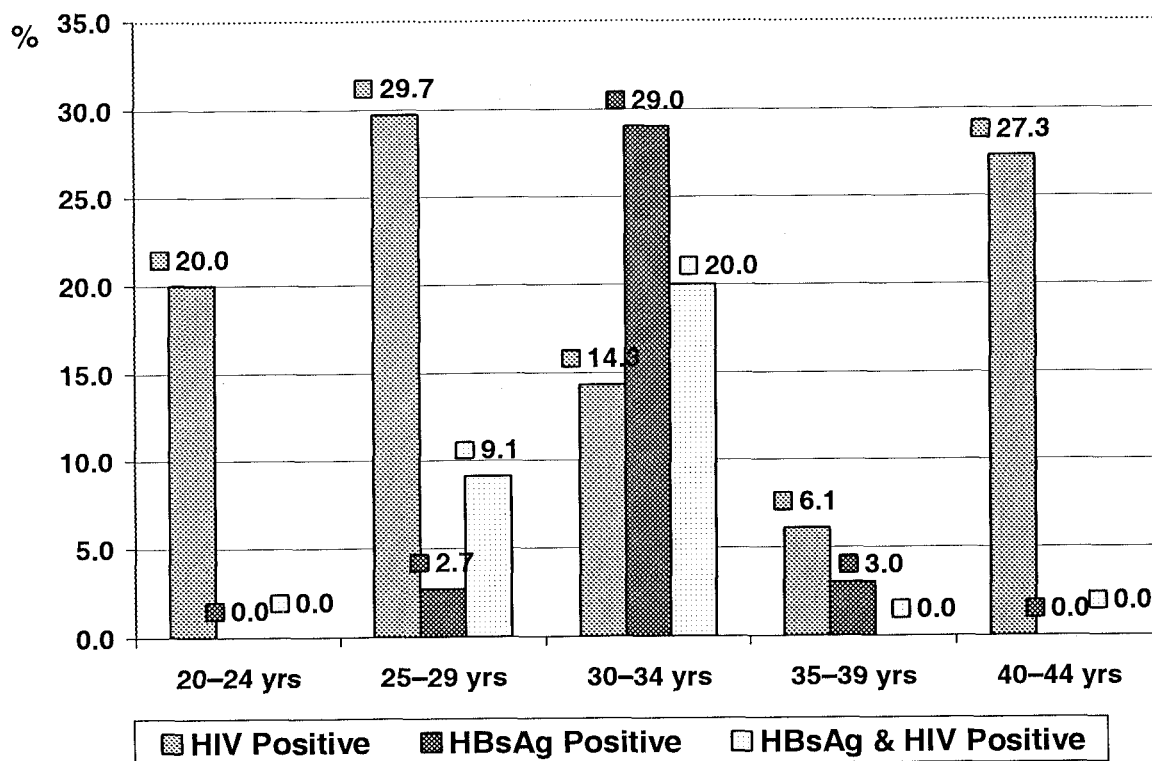


Figure 1. Age Distribution of HIV Positivity among prospective couples

Table I. HIV Sero-Prevalence rates by gender, denomination and courting period

Variable	Number tested	Number HIV positive	% HIV positive	χ^2	p-value
Gender					
Male	84	12	14.3	4.37	0.036
Female	84	23	27.4		
Denomination					
Orthodox	74	19	25.7	7.72	0.021
Pentecostal	94	16	17.0		
Courting Period					
< 6 months	98	9	9.2	19.35	0.0001
> 6 months	70	26	37.1		

Table II. HIV Sero-Prevalence rate based on history of premarital sex, cohabitation and medical risk factors

Risk Factor	Number tested	Number HIV positive	% HIV positive	χ^2	p-value
Premarital Sex					
Yes	32	31	96.9	13.59	0.0001
No	136	4	2.9%		
Cohabitation					
Yes	20	19	95%	75.72	0.0001
No	148	16	10.8		
Medical Risk Factor					
Transfusion History					
Yes	-	-	-	0.00	1.00
No	168	35	20.8%		
Surgical History					
Yes	2	-	-	0.53	0.63
No	166	3.5	21.1		

DISCUSSION

The epidemic of HIV/AIDS constitute a serious threat to the world's public health in this century; as many as more than 40 million people worldwide are estimated to have been infected. It is largely unknown to what extent HIV affects prospecting couples in many of the world's developing countries. Our study represents the first attempt in Port Harcourt, Nigeria.

Our finding of HIV sero-prevalence rate of 29.8% is significantly higher than the national prevalence of 5.0% reported in the 2003 sentinel surveillance report and 6.6% for Port Harcourt⁴. This observation may have been accounted for by the fact that we have targeted more vulnerable young, unmarried though prospective couples who would not have thought that they could be infected. On the contrary, they serve as good proxy for the general population because they are sexually active, having partners that cut across all works of life with varying sexual behaviours.

Consistent with previous report in Nigeria⁹, we found HIV-1 the predominant viral subtype among prospective couples 34(97.1%).

The higher seroprevalence found in Nigerian females in this study parallel data found in sub-Saharan Africa which indicated

that there were 12 to 13 infected women for every 10 infected men in 2001¹⁰. Biological, cultural and socio economic conditions contribute to women's greater vulnerability to HIV/AIDS. Women are four times more at risk of becoming infected with HIV during unprotected vaginal intercourse than men. The vagina's greater area of susceptible tissue and micro trauma during intercourse makes women more physiologically vulnerable¹¹.

The synergy between HIV and other sexually transmitted infections (STI) is another biological factor that makes women more vulnerable to HIV. This is especially significant for women because most STI cases in women are untreated, symptoms are often latent, and women diagnosed with STI may be stigmatized and majority have no access to medical treatment¹². Socio economic factors including women's lack of access to education or personal income perpetuate women's lower status. Moreover widespread poverty drives some women into commercial sex work. Furthermore men control the main tool for reducing the risk of sexual transmission of HIV: the male condom. Cultural tradition such as forced marriage, female genital mutilation and older man's preferences for younger women contribute to increased females gender vulnerability to HIV¹³.

We documented a higher proportion of HIV infection among prospective couples from orthodox churches compared to Pentecostal churches. This observation brings to bare the need for faith-based organizations (FBO) to develop preventive programmes which emphasizes a combination of behavioural and social changes in their AIDS prevention crusade.

Our finding of a higher HIV seroprevalence was significantly higher in prospective couples with more than 6 months courting period; couples with positive history of premarital sex; and couples with history of cohabitation. Previous reports have indicated an increased sexual activity and maintenance of multiple sex partners among Nigerian youths¹⁴. History of premarital cohabitation may predispose prospective couples to having premarital sex thus increasing their vulnerability to HIV infection and other sexually transmitted infection.

Among the subjects found HIV Positive in this study, no one had a history of blood transfusion and surgery thus these known risk factors for HIV infection could not be related to sero prevalence in our study. Available evidence however supports the fact that history of blood transfusion and surgery are independent risk factors for HIV infection along with other sexually transmitted viral infections¹⁵.

Although the enforcement of premarital HIV testing by church leaders may seem too drastic and a violation of self-right of the couples concerned, the measure no doubt may be important judging from the fact that early diagnosis of infection may facilitate counselling and treatment. However faith-based organisations must realize that unless there is facility for effective pre and post test counselling for prospective couples, there may be no justification for mandatory testing¹⁶. Voluntary counselling and testing ensures confidentiality of those found positive and helps to reduce stigmatization and discrimination and foster a prompt treatment plan with antiretrovirals. Any person screened positive should ideally benefit from antiretroviral treatment and counselling to minimise the risk of transmission to loved ones^{17, 18}.

In conclusion, this hospital - based study has confirmed a high prevalence of HIV even among prospective couples in the church, and also described the influence of important social factors. This calls for an urgent need by faith-based organizations (FBO's) to embark on intervention measures. The church leadership must break the silence, challenge the stigma and eliminate the shame associated with HIV/AIDS. Faith-based organisations must rise up to the challenge by ; providing young people with knowledge and information, providing youth-friendly health services, promoting voluntary and confidential HIV counselling and testing, creating safe and supportive environment and strengthening of partnerships with government and non government organizations. Government and non-government organizations, must embark on building capacity on faith-based organizations to enable them meet the challenges of HIV/AIDS.

REFERENCES

1. Gottlieb MS, Schroff R, Schancker HM. *Pneumocystis carinii* pneumonia and mucosal Candidiasis in previously healthy homosexual men. Evidence of a new acquired cellular immunodeficiency syndrome (AIDS). *N Engl J Med* 1981; 305: 1425-1431.
2. Satcher D. The global HIV/AIDS pandemic. *JAMA* 1999; 281: 1479.
3. Poit P, Coll-seeck A. Preventing mother to child transmission of HIV in Africa. *Bulletin of the World Health Organization* 1999; 77 (11): 869-877.
4. Summary findings from the 2003 HIV/Syphilis sentinel sero-prevalence survey in Nigeria. *Information for policy makers* 2003: 30-50.
5. Royce RA, Sena A, Cates W, Cohen M. Sexual transmission of HIV. *N Engl J Med* 1997; 15: 1072-1078.
6. Olayinka BA, Osho AA. Changes in attitude, sexual behaviour and the risk of HIV/AIDS transmission in South-West Nigeria. *East Afri Med J* 1997; 74(9): 554-560.
7. Adedoyin M, Adegoke AA. Teenage prostitution-child abuse: A survey of the Ilorin situation. *Afri J Med Sci*. 1995; 24: 27-31.
8. Striker J, Coates TJ, Haynes-Sansted K, *et al*. HIV prevention: Looking back, Looking ahead. *JAMA* 1995; 273: 1143-1148.
9. Erhabor O. The geometrically increasing prevalence of HIV infection and its attendant social implication in Port Harcourt, Nigeria. *Laboratory News Journal* 2001; 4: 27-29.
10. Geeta RG. How men's power over women fuel the HIV epidemic. *Br Med J* 2002; 324(7331): 183-184.

11. Peter KL, Kristen R, Willard C. "HIV/AIDS evolving impact on global health". In: Ron Valdisern (ed) *Dawning Answers: How the HIV/AIDS epidemic has strengthened public health*. New York: Oxford press, 2002.
12. UNAIDS. *Women and AIDS: UNAIDS point of view*. UNAIDS Geneva, 1997.
13. Gomez AC, Marin VB. Gender, culture and power: Barriers to HIV-prevention strategies for women. *Journal of Sex Research* 1996; 33(4): 355-362.
14. Oladepo O, Brieger WR. AIDS knowledge, attitude and behavioural patterns among university students in Ibadan, Nigeria. *Afri J Med Sci* 1994; 23: 199-125.
15. Jose LS, Mana HS, Johnny DC, *et al*. Hepatitis C in Peru: Risk factors for infection, potential iatrogenic transmission and genotype distribution. *Am J Trop Med Hyg* 2000; 63(5,6): 242-248.
16. Volberding PA, Feinberg MB. Testing for Human Immunodeficiency virus. In: Cohen PT, Sande AA, Volberding PA (eds). *The AIDS, knowledge base*. 2nd ed. Boston: Little Brown and company, 1994.
17. Rhame FS, Maki DG. The case for wider use of testing for HIV infection. *N Engl J Med* 1989; 320: 1248-1258.
18. Bayer R. Public Health Policy and the AIDS epidemic: an end to HIV exceptionalism. *N Engl J Med* 1991; 324: 1500-1504.