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Pre-marital HIV testing in couples: Our experience in Kano, Nigeria

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ABSTRACT: Background: This descriptive cross-sectional study was conducted among prospective couples referred from some churches and faith based organizations in Kano for pre-marital HIV screening. The study is therefore to establish the seroprevalence of human immunodeficiency virus (HIV) in this particular group.

Methods: A total of 79 healthy heterosexual couples who were sent for pre-marital HIV screening between January 2003 to December 2005 using a double ELISA and a confirmatory test technique for HIV I & II antibodies.

Results: A total of 158 subjects were screened, 38 (24.1%) were found to be positive. Sero-prevalence among the females was higher 25(31.6%) compared to the males 13 (16.6%). Sero-prevalence of HIV was significantly higher among females ($P= 0.038$) among prospective couples from orthodox churches ($P=0.029$) and couples cohabiting $P=0.001$.

Conclusion: Our findings have shown that the faith based organizations and churches should urgently initiate health education, behavioural and social changes among their members. It also shows the need for voluntary counseling and confidential HIV testing especially pre and post-test counseling as the basis of pre-marital HIV testing.

Key Words: Pre-marital, HIV screening, Faith based organization

Introduction

The epidemic of Acquired Immune Deficiency Syndrome (AIDS) caused by infection with Human Immunodeficiency Virus (HIV) has remained a major public health problem worldwide, affecting million of individuals in almost every community¹. It is estimated that 23million out of the 33million people living with HIV worldwide are in sub-saharan Africa².

About one million children are living with HIV contracted predominantly through infection from their mothers³. However, 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% 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 the age of 25 years with females outnumbering males in the ratio 2:1⁵.

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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 having multiple partners⁶. This may be due to the erosion of moral African values that place emphasis on chastity which has been abandoned for “permissive” Western culture and attitudes to sexual issues⁷. Therefore, to prevent HIV/AIDS emphasis must be placed on preventive programmes which include a combination of behavioral and social changes⁸. Faith based organizations in the sub-Saharan countries are beginning to respond to the challenges of HIV/AIDS by insisting on mandatory pre-marital HIV testing before prospective couples can be joined in marriage. Although many people think it is not scriptural to do any blood test as it was not practiced in the past. It is however important since early diagnosis of HIV infection will facilitate prompt and effective counseling and treatment with antiretroviral drugs.

In this study, we sought to investigate the seroepidemiology of HIV among apparently healthy prospective couples in Kano, a commercial city in northern Nigeria.

Materials and Methods

All persons presenting to the Aminu Kano Teaching Hospital, Kano from churches and faith based organizations within Kano for the purpose of pre-marital HIV testing between January 2003 to December 2005 constituted the subjects for this study. Socio – demographic data relating to age, sex, history of pre marital sex, cohabitation, history of surgery or blood transfusion period were obtained by means of questionnaire. Subjects were offered pretest and posttest counseling, even though results were sent directly to the churches.

Laboratory Methods

Five millilitres of blood was collected from each participant by venopuncture. The blood specimens were then centrifuged at 3000rpm for 10 minutes. Sera were separated and screened for the presence of antibodies to HIV 1 and 2 using double rapid test kits (Capillus by Trinity BIO Tech, Ireland and Genie II by Biorad, U.S.A). The positive sera were later confirmed using confirmatory test, Immunoconfirm I & II by Organics, Israel.

Statistical Analysis

Data collected were entered and analyzed using a statistical package – Epi info version 10. Statistical analyzing mean, standard deviation was used for continuous variables. A p value of 0.05 was considered significant for all statistical comparison.

Results

A total of 79 couples that is, 158 participants were tested for HIV within the study period. This number was made up of 79 males and 79 females, mean age 29.42 + 5.01years. Out of the 158 subjects tested, 38 (24.1%) were positive. The highest HIV infection burden occurred among the 25 to 29 years age group (30.2%) while the lowest occurred in the 35 to 39years age group (4.8%). Though this difference was not statistically significant ($X^2=9.08$ P Value = 0.057). HIV 1 was the predominant viral subtype accounting for 97.4% of the positive test while 2.7% were seropositive for HIV II. Table 1 shows the prevalence by gender and denomination. The seroprevalence of HIV infection was significantly higher in females (31.6%) compared to males (16.6%), ($P<0.05$) and among subjects from orthodox churches (27.2%) compared to 20.8% from Pentecostals $P< 0.03$.

Results of medical and sexual risk factors are shown in Table 2. Blood transfusion and surgical history were not found in any of the subjects. The prevalence of HIV was significantly higher in subjects who reported history of pre marital sex (81.8%). Seroprevalence rate of HIV infection was higher in subjects with history of premarital cohabitation (61.5%).

Table 1: Seroprevalence rates by gender and denomination

Variable	No. Tested	No. HIV Positive	% HIV Positive	χ^2	P value
Gender					
Male	79	13	16.6	4.48	0.042
Female	79	25	31.6		
Denomination					
Orthodox	81	22	27.2	8.83	0.031
Pentecostal	77	16	20.8		

Table 2: HIV seroprevalence rate based on history of premarital sex, cohabitation and medical risk factors.

Risk factor	No. Tested	% HIV Positive	% HIV Negative	χ^2	P value
Premarital Sex					
Yes	40	36	90	14.82	0.001
No	118	2	1.7		
Cohabitation					
Yes	52	32	61.5	74.48	0.0001
No	106	6	5.7		
Medical Risk Factor (Transfusion History)					
Yes	–	–	–	0.00	1.00
No	158	38	24.1		

Discussion

Despite a worldwide campaign coordinated by WHO, governments and non-governmental organizations towards prevention⁸, HIV infection and AIDS remain a significant public health problem worldwide². Education and information programmes have been considered as the best available option for becoming healthier and disciplined society. It is largely unknown to what extent HIV/AIDS affect would-be couples in many of the world's developing countries. The seroprevalence rate of 24.1% found is higher than the national prevalence of 5.0% reported in 2005 sentinel surveillance report and 4.4% for Kano. The higher prevalence rates in this study may be due to the vulnerable group of unmarried but sexually active adults. However, they serve as good proxy for the general population because they are sexually active, having partners that cut across the society with varying sexual behaviors.

Consistent with previous report in Nigeria, we observed HIV 1 to be the predominant viral subtype among the subjects 37(97.3%)⁹⁻¹¹. There were more females found positive, which is similar to a study in Sub-Saharan Africa which indicated that there were 12-13 infected women for every 10 infected men¹².

Biological, cultural and socio-economic conditions contribute to women's greater susceptibility to HIV/AIDS. Women are more at risk and becoming infected with HIV during unprotected sexual intercourse than men. The vagina's greater area of susceptible tissue and microtrauma during intercourse makes women more physiologically vulnerable¹³. The other reasons put forward are: most STI cases in women are untreated, symptoms are often latent and women diagnosed with STI may be stigmatized and majority of them have no access to medical treatment¹⁴. Socioeconomic factors including women inability to access education and low income put an average woman perpetually at lower status. Furthermore, men control the main tool for reducing the risk of sexual transmission of HIV, the male condom. Finally, culture and traditions such as forced marriage, female genital mutilation and older men's preference for younger women contribute to increased female gender vulnerability¹⁵. 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 the churches to develop preventive programmes, which emphasizes a combination of behavioural and social changes in their AIDS prevention crusade.

Previous reports have indicated an increased sexual activity and maintainance of multiple sex partners among Nigerian youths^{6,16}. Cohabitation may predispose prospective couples to having pre-marital sex thus increasing their vulnerability to HIV infection and other sexually transmitted infection. Among the subjects studied, no one had history of blood transfusion and surgical procedure. Therefore, these factors could not be related to seroprevalence in our study. However, there is evidence that supports the fact that history of blood transfusion and surgical procedures are independent risk factors for HIV infection and other infections¹⁷.

All the subjects were enforced to carry out HIV screening as a policy of the churches. This will be viewed as violation of human right of the subjects. However, the measure no doubt may be important because early diagnosis of HIV infection may facilitate counseling and treatment¹⁸. Voluntary counseling and testing ensures confidentiality of those found positive and helps to reduce discrimination, stigmatization. This further helps in fostering prompt treatment plan with antiretroviral agents. This hospital based study has confirmed a high prevalence of HIV infection among prospective couples in the church. There is need to embark on intervention measures. Most churches should break the silence, challenge the stigma, discrimination and eliminate the shame associated with HIV/AIDS. The churches should also provide the youths with knowledge and information, creating safe and strengthening of partnership with government and non-government organizations. They should also have some programmes for the prevention of the HIV/AIDS. The redeemed Christian church of God have group called the Redeemed Aids Programme Action Committee. They have the mandate to educate, give spiritual care and support health issues, and finally monitoring and counseling of youths and married couples. Government and non-government organizations, must embark on building capacity on Faith Based Organizations to enable them meet the challenges of HIV/AIDS.

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