ORIGINAL ARTICLE

KAP of HIV Prevention and Screening among Pregnant Women Attending Specialist Antenatal Clinics in Calabar, Nigeria

***J.E. Ekabua FWACS, **A.E. Oyo-Ita FWACP, **D.S. Ogaji MWACP, *V.O. Omuemu FMCPH**
Departments of *Obstetrics and Gynaecology, *Community Medicine, University of Calabar Teaching Hospital, Calabar, *Community Health, University of Benin Teaching Hospital, Benin.

ABSTRACT

Background: *There is a growing concern globally to reverse the growing incidence of HIV especially in Sub-Saharan Africa. This study was conducted to determine the level of awareness, attitude and practice of antenatal HIV screening in Calabar.*

Method: *Descriptive multi - centric study of 400 antenatal attendees in Calabar, carried out in October 2005 using pre - tested, semi - structured and interviewer - administered questionnaire for data collection.*

Result: *Of the 96.7% women with knowledge of HIV infection, 41.2% were assessed to have excellent knowledge of the mode of transmission. Awareness of antenatal HIV screening was observed in 96.2% women; while 93.7% approved of antenatal HIV screening. Awareness and approval of antenatal HIV screening was significantly related to age and educational status. The proportion of women who had HIV test in current pregnancy was 70.2%. Pre-test counseling was done in 65.8% of women. Most women (78.2%) who had not been screened were willing to undergo HIV testing. Spousal disapproval (23.1%) was the main reason for unwillingness to undergo HIV testing.*

Conclusion: *The study revealed high levels of awareness, approval and practice of antenatal HIV screening. However, pre test counseling was not consistently given in cases tested.*

KEYWORD: Awareness; Attitude; Practice; Antenatal HIV screening.

Paper accepted for publication 22nd August 2006.

INTRODUCTION

The Joint United Nations Programme on AIDS (UNAIDS) estimates that nine out of ten infected people in the world do not know that they are HIV positive[1]. Many of these infected people are still healthy and do not realize they need to protect their partners. Therefore, it has become necessary for individuals to know their HIV status so that appropriate intervention can be instituted early.

Knowledge of HIV sero - status through voluntary counseling and testing (VCT) is the key entry point to prevention services in populations at risk and care and support for persons living with HIV/AIDS. VCT services include information on HIV/AIDS, pre-test (decision) and post-test counseling. Counseling helps one to make a decision on whether or not to be tested and provides support when receiving the test result.

VCT helps people to accept and cope with a positive result, reduces the risk of HIV transmission to others as well as adhering to treatment regimen. It also motivates those who are uninfected to remain so through risk reduction strategies. VCT is provided in various settings including antenatal clinics and HIV screening in pregnant women will provide opportunity for intervention to minimize mother to child transmission of HIV, decision on future fertility and prevention of transmission to partners.

The 2003 national HIV sero-prevalence sentinel survey in Nigeria among women attending antenatal clinics revealed a national prevalence of 5.0% and the state prevalence rates ranged from 1.2% in Osun state to 12.0% in Cross-river state[2]. Comparison of the HIV prevalence among women attending antenatal clinic in Calabar, Cross-river state showed rates of 4.1% in 1993 to 12.0% in 2003[2]. This rising trend may result in increase in the cases of paediatric HIV/AIDS since vertical transmission is the major route through which children less than 15 years acquire HIV infection. Hence, if these women are to make appropriate choices about prevention and/or care and support services, they need to be informed and have access to VCT for HIV.

This study was carried out in Calabar, an area with the highest prevalence of HIV in Nigeria[2] to determine the level of awareness, attitude and practice of antenatal attendees towards antenatal HIV screening.

METHOD

Background to the study area

This cross-sectional, descriptive study was carried in Calabar, which is made up of two local government areas (LGAs) namely: Calabar Municipality and Calabar South LGAs. Calabar, located within the tropical rainforest of Nigeria. Calabar has urban and peri - urban settings, with one Teaching Hospital, one General Hospital and many private clinics. The

Correspondence to: **Dr. D.S. Ogaji**
E-mail:dst_ogaji@yahoo.co.uk

projected population from the 1991 National Population census is 418,652. The two LGAs are similar in socio-cultural and economic activities with political boundaries as their only distinguishing factor.

Subjects and methods

Subjects were pregnant women attending antenatal clinics in health institutions supervised by Specialists. Stratification of these health facilities based on ownership (Federal, State and Private) was done. The University of Calabar Teaching Hospital and the General Hospital being the only health facilities at the federal and state levels, respectively were included in the study. Simple random sampling method was used to select one of the private hospitals run by obstetricians in Calabar. The sampling frame was made of clients attending the antenatal clinics in these three health facilities. The actual study participants included a total population of all pregnant women (400) attending these health facilities on alternate antenatal clinic days over a period of two weeks in January 2006. Informed consent was sought and obtained from participants before inclusion in the study.

Pre-tested, semi-structured and interviewer-administered questionnaire was the tool for data collection. Variables included demographic characteristics, knowledge about HIV, awareness and attitude to antenatal HIV screening. Adequacy of knowledge of HIV was assessed as excellent if the respondents were able to identify all correct options given; fair if one or two correct options were identified and the rest classified as having poor knowledge.

Field assistants ensured that all retrieved questionnaires were fully and appropriately answered. Data were analyzed using the Epi - info (version 2002) statistical software package. The CHECK option was used to programme data entry so as to minimize inconsistent and illegal entries. Frequency tables were generated and chi - square test was used to evaluate statistical association among these variables. Statistical significance was established at p values less than 0.05.

RESULTS

A total of 400 antenatal clients were studied with a mean age of 27.1 $\pm$ 5.6 years. Three hundred and fifty seven (89.2%) were married and majority 212 (53.0%) had tertiary education (Table I). Three hundred and eighty seven women (96.7%) admitted to having knowledge about HIV/AIDS. The modes of transmission mentioned by the respondents included sharing sharp instruments with infected persons 296 (76.5%), having unprotected sex with infected persons 279 (72.1%), and from infected mother to the child 231 (59.7%). Of those with knowledge about HIV, 165 (41.3%) were scored as having excellent knowledge about the modes of transmission. The sources of information about HIV include mass media 215 (55.5%) and health facility 178 (46.0%), - (Table II). Majority of the respondents 381 (95.2%) were aware of antenatal HIV screening. Awareness was significantly more in those with higher educational level. (p = 0.000001). Three hundred and seventy-five (93.7%) of the respondents approved of antenatal HIV screening. Approval of antenatal HIV screening was significantly associated with increasing age (χ^2 = 23.41, df = 2, p = 0.000032), higher educational attainment (χ^2 = 88.281, df = 3, p = 0.00) and the Christian religion (χ^2 = 9.067, df = 2, p = 0.011) - (Table III). Two hundred and eighty-one (70.2%) of the respondents had HIV screening in the current pregnancy with 185 (65.8%) given pre-test counseling. The General Hospital significantly offered higher rates of pre - test counseling (χ^2 = 17.7, df = 2, p = 0.00014) than other health facilities (Tables IV and V). Of the 119 respondents who have not been screened, 78.2% were willing to undergo HIV screening. Reasons for unwillingness to undergo HIV screening included spousal disapproval (23.1%), cost (11.5%), and cultural prohibitions (3.8%).

Table I. Demographic Characteristics of Respondents

Characteristics	Frequency (%)
Age of Respondents	
< 20 years	51 (12.7)
20 -29 years	222 (55.5)
30 – 39 years	127 (31.8)
Marital Status	
Married	357 (89.2)
Single	43 (10.8)
Educational Status	
No formal education	11 (2.80)
Primary education	22 (5.5)
Secondary education	155 (38.7)
Tertiary education	212 (53.0)
Religion	
Christian	383 (95.7)
Moslem	13 (3.3)
Others e.g. African Traditional Religion.	4 (1.0)

Table II. Respondents' knowledge about HIV

Respondents Characteristics	Freq (%)
Knowledge about HIV	
Yes	387(96.7)
No	13(3.3)
Adequacy of knowledge about HIV	
Excellent	165(41.3)
Fair	207(51.7)
Poor	28(7.0)
Sources of information (among those with knowledge, n = 387)*	
Mass media e.g. TV, Radio	215(55.5)
Health facility	178(46.0)
Church/mosque	79(20.4)
Friends/Associates	64(16.5)
Knowledge of transmission (among those with knowledge, n = 387)*	
Sharing sharp instruments with infected persons	296(76.5)
Unprotected sex with infected persons	279(72.1)
From infected mother to the child	231(59.7)
Mosquito bite	37(9.6)
Spiritual attack	29(7.5)
Hugging and handshakes	5(1.3)

* Some respondents gave multiple responses

Table III. Association between attitude to antenatal HIV screening and demographic characteristics of respondents

Characteristics	Support for antenatal	HIV screening	X^2	p-value
Age group(years)	Yes	No	23.41	0.000032*
	Freq (%)	Freq (%)		
<20	40(78.4)	11(21.6)		
20-29	213(95.9)	9(4.1)		
30-39	122(96.1)	5(3.9)		
Marital status			2.378c	0.23
Married	337(94.4)	20(5.6)		
Single	38(88.4)	5(11.6)		
Educational status			88.281	0.00*
No formal education	6(54.5)	5(45.5)		
Primary	13(59.1)	9(40.9)		
Secondary	144(92.9)	11(7.1)		
Tertiary	212(100.0)	0(0.0)		
Religion			9.067	0.011*
Christian	362(94.5)	21(5.5)		
Islam	10(76.9)	3(23.1)		
African traditional religion	3(75.0)	1(25.0)		
Total	375(93.7)	25(6.3)		

*Statistically significant.
c – yates corrected

Table IV. Practice of antenatal HIV screening in the three health facilities as reported by respondents

Health facility	Had HIV Screening		Total
	Yes	No	
	Freq (%)	Freq (%)	
Private	47 (75.8)	15 (24.2)	62 (100.0)
General	89 (76.1)	28 (23.9)	117 (100.0)
Teaching	145 (65.6)	76 (34.4)	221 (100.0)
Total	281 (70.2)	119 (29.8)	400 (100.0)

$X^2 = 5.09$, df = 2, p = 0.079

Table V. Conduct of pre-test counseling in hospitals as reported by respondents

Hospital	Had pre-test counseling before screening		Total
	Yes (%)	No (%)	
Private	20 (42.6)	27 (57.4)	47
General	70 (78.7)	19 (21.3)	89
Teaching	96 (66.2)	49 (33.8)	145
Total	186 (66.2)	95 (33.8)	281

$X^2 = 17.91$, df = 2, p = 0.00013

DISCUSSION

This study showed a high knowledge of HIV/AIDS among these pregnant women and their major sources of information were the media and health facilities as has been reported by several other studies[3-6]. The mass media including radio, television and newspaper have been reported to play important roles in dissemination of information on HIV/AIDS[7-9]. It is an efficient and less expensive method of informing a large number of people at a time. In Uganda, safer sex messages delivered through the media reached 92% of targeted population. [7] Messages delivered through the media by popular role models can help people change risky behaviours. In Zambia, adolescents exposed to TV campaigns that promoted abstinence and condom use were 47% and 87% more likely to abstain from sex and use condoms, respectively than those not exposed[8] . Also the media can set the stage for public discussion and influence policy on HIV/AIDS[9]. Hence, the roles of the media in HIV prevention and control activities cannot be overemphasized.

The level of knowledge about modes of transmission and prevention of HIV was also high although there were still some misconceptions about mosquito bites, spiritual attacks as well as hugging and handshakes as possible means of HIV transmission. These have been reported elsewhere [4-6] and suggest the need for more enlightenment campaigns to educate individuals on the facts of HIV transmission.

The majority of the respondents were aware (95.2%) and approved (93.7%) of antenatal HIV screening. This is in agreement with reports from several related studies where the attitude to HIV testing is an important determinant to the uptake of HIV testing[5, 10-13]. The predictors of positive attitude towards antenatal HIV screening, observed in this study, were increasing age, higher educational attainment and being a Christian. A more positive attitude observed among those with a higher educational attainment has been reported elsewhere[5] and maybe because these also were significantly more aware of HIV screening and so more likely to be knowledgeable about its benefits.

Majority of the respondents (70.2%) had been screened for HIV in their current pregnancy. This maybe attributed to the high level of awareness and approval of antenatal HIV screening among these women. It is encouraging to note that 78.2% of those who have not been screened were willing to undergo HIV screening. This agrees with the notion that majority of women in developing countries would accept HIV testing if offered[10, 14-15].

Reasons given for disapproval of HIV testing were

related to spousal disapproval, cost and cultural prohibitions. These have once again emphasized the poor economic status and lack of decision making power of women even in matters affecting their own health. Many of these women need to seek the permission of their spouses before accepting HIV testing. Failure to do this may expose some of them to various forms of domestic violence and the possibility of being ostracized and stigmatized by their families and communities [16-18].

It is important to note that 33.8% of the women in this study who had been tested did not undergo any pre-test counseling. This maybe an indication that counseling services are still inadequate and many health providers, especially in private clinics, are yet to fully understand the importance of counseling. Routine testing of pregnant women without counseling is an unacceptable practice and the disadvantages may negate any benefits obtained from knowing ones HIV status. These may include denial of a positive result; reluctance to utilize maternal health services for fear of discrimination by health workers and the possibility of breaches in confidentiality; and fear of stigmatization and ostracism from their communities[18, 19].

Pre- and post-test counseling are essential elements in the management of HIV in pregnancy. Pre-test counseling enables individuals make informed decision about HIV testing. Post-test counseling, in addition to providing the test result, will provide information to HIV positive pregnant women on management options such as antiretroviral therapy, operative delivery, alternative infant feeding options as well as termination of pregnancy, future fertility and disclosure to partners. For HIV negative pregnant women, post-test counseling will provide information on methods of preventing future infections. Thus, all pregnant women have the ethical rights to be counseled before HIV testing and to be informed and counseled about the implications of the test results.

CONCLUSION

This study has revealed high levels of awareness, approval and practice of antenatal HIV screening among the respondents. The consistent practice of pre test counseling has the potential for increasing uptake of antenatal HIV screening. It is recommended that women should be encouraged to bring their spouses for counseling and testing whenever possible.

ACKNOWLEDGEMENT

The efforts of the following: Benson Nnaemeka, Edem Inyang, Uto Essien and Ejibe David who were the field assistants are hereby acknowledged.

REFERENCES

1. United Nations Programme on HIV/AIDS. Guidelines for evaluating HIV Voluntary Counseling and Testing. Geneva, UNAIDS, 2000.
2. Federal Ministry of Health. Technical Report on the 2003 National HIV/Syphilis Sentinel Survey among pregnant women attending antenatal clinics in Nigeria. Abuja, Nigeria: Federal Ministry of Health, 2004.
3. Ayankogbe OO, Omololu BD, Inem VA. Knowledge, attitude, beliefs and behavioural practices for creating awareness about HIV/AIDS in Lagos State, Nigeria. Niger Med Pract 2003; 44(1): 7-10.
4. Aboyeji AO, Fawole AA, Ijaiya MA. Knowledge of and attitude to antenatal screening for HIV/AIDS by pregnant mothers in Ilorin. Nig Qt J Hosp Med 2000; 10(3): 181-4.
5. Iliyasu Z, Kabir M, Galadanci HS, Abubakar IS, Aliyu MH. Awareness and attitude of antenatal clients towards HIV voluntary counseling and testing in Aminu Kano Teaching Hospital, Kano, Nigeria. Niger J Med 2005; 14(1): 27-32.
6. Anderson M, Sandstrom C, Mola G, Amoa AB, Anderson R, *et al*. Awareness of and attitudes towards HIV among pregnant women at the antenatal clinic, Port Moresby General Hospital. Papua New Guinea Med J 2003; 46(3-4): 152-65.
7. Lewicka N, Kiragu K, Yoring S. Delivering of improved services for health project in Uganda: evaluation of safe sex for AIDS communication campaign. John Hopkins University Centre for Communication Programme, 1998; 51.
8. Underwood C. Impact of the heart campaign from the youth survey in Zambia. John Hopkins University Centre for Communication Programme, 2001; 24-30.
9. Tuju R, Origombe M, Henry K. HIV/AIDS prevention through the mass media. Family Health International, Arlington, Virginia, case study 101, 149-57.
10. Ekanem EE, Gbadegesin A. Voluntary counseling and testing for HIV: a study on acceptability by Nigerian women attending antenatal clinics. Afr J Reprod Health 2004;8(2): 91-100.
11. Fasuba OB, Ezechi OC, Orji EO, Olowokere OA. Antenatal HIV screening in South-west Nigeria: the client's perspective. J Obstet Gynae 2001; 21(1): 24-6.
12. Marjan RS, Raminjo JK. Attitudes to prenatal testing and notification for HIV infection in Nairobi, Kenya. East Afr Med J 1996; 73(10): 665-9.
13. Baiden F, Remes P, Baiden R, Williams J, Hodgson A*, et al*. Voluntary counseling and HIV testing for pregnant women in the Kassena-Nankana district of Northern Ghana: is couple counseling the way forward? AIDS Care 2000; 17(5): 648-57.
14. Msellatti P, Hingst G, Kaba F, Vitro I, Welffens-Ekra C, Dabis F. Operational issues in prevention of

mother-to-child transmission of HIV-1 in Abidjan, Cote d;Ivoire, 1998-1999. Bull World Health Organization 2001; 79(7): 641-7.
15. Cartoux M, Msellati P, Meda N, Welffens-Ekra C, Mandelbrot L, *et al*. Attitude of pregnant women towards HIV testing in Abidjan, Cote d'Ivoire and Bobo-Dioulasso, Burkina Faso. DITRAME Study Group (ANRS 049 Clinical Trial). AIDS 1998; 12(17): 2337-44.
16. Laver SM. Voluntary testing and counselling for HIV. 'Are adults in rural communities ready to test'. A descriptive survey. Cent Afr J Med 2001; 47(4): 92-7.
17. Ogundele MO, Coulter JB. HIV transmission through breast feeding: Problems and prevention. Ann Trop Paediatr 2003; 23(2): 91-106.
18. Coulibaly D, Msellati P, Dedy S, Welffens-Ekra C, Dabis F. Attitudes and behavior of pregnant women towards HIV screening in Abidjan (Ivory Coast) in 1995 and 1996. [Article in French]. Sante 1998 ;(3):234-8.
19. Jones D. Understanding why women decline HIV testing. RCM Midwives 2004; 7(8):344-7.