

Full length Research paper

# Awareness and knowledge of HIV/AIDS at booking among antenatal clinic attendees in Uyo, Nigeria

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Accepted 10 July, 2020

Sub-saharan Africa bears the major brunt of the global HIV/AIDS pandemic and 10% of these infections are due to vertical or mother-to-child transmission (MTCT). Interventions to prevent mother-to-child transmission (PMTCT) in the developed world have resulted in a dramatic decline in pediatric HIV/AIDS. A study of the awareness, knowledge and previous testing for HIV/AIDS among antenatal clinic attendees at the university of Uyo teaching hospital was carried out as a strategy to develop site specific counselling interventions for PMTCT, information was elicited from 263 women who booked for ante-natal care between September and December 2005 with the use of a self administered structured questionnaire. The mean age of the respondents was  $26.9 \pm 5.1$  years, awareness of HIV/AIDS was high (95.8%) and general knowledge was good (86.7%), but with some misconceptions. There was a statistically significant association between knowledge of HIV/AIDS and the educational status of the respondents ( $P = 0.031$ ) but none with occupation ( $P = 0.877$ ). 117 women (44.5%) had previously been screened for HIV but there was no statistically significant association between knowledge of HIV/AIDS and previous HIV testing ( $P = 0.194$ ). To reduce the burden of mother-to-child transmission of HIV/AIDS, adequate counselling should be given to all pregnant women. This should contain correct information on the mode of transmission of the virus, benefits of antiretroviral prophylaxis, other non drug interventions and proper infant feeding.

**Key words:** Awareness, knowledge, antenatal, HIV/AIDS, Uyo.

## INTRODUCTION

Human immune deficiency virus/acquired immune deficiency syndrome (HIV/AIDS) first reported in 1981 has since evolved into a global pandemic with devastating public health and economic consequences, the major brunt of which is borne by sub-saharan Africa (Quinn, 1996; Gottlieb, 2001; Memoona, 2004).

WHO estimates that in the year 2004 about 40 million people world wide were living with HIV/AIDS, 70% of them were in sub-saharan African (UNAIDS, 2003) and 3.4 million were Nigerians. Vertical transmission or mother-to-child transmission accounted for 10% of these infections (National guidelines for prevention of mother to child, 2005). In the absence of any interventions, approximately 20 - 45% infants born to HIV positive mothers acquire infection during pregnancy, delivery or breast-

feeding. Thus in Nigeria with an approximate population of 130 million people, average birth rate of 42/1000 and seroprevalence of 5% (20004) among ante-natal clinic attendees, an estimated 67,500 to 125,000 infants acquire HIV infection every year (National guidelines for prevention of mother to child, 2005).

Globally, treatment modalities for HIV are rapidly changing as a result of scientific research (Memoona, 2004). In 1994, the pediatric AIDS clinical trial group reported that oral zidovudine given during pregnancy, intravenous zidovudine given during labour and oral zidovudine given to the neonate for 6 weeks resulted in 67% reduction in mother to child transmission of HIV (Connor et al., 1994). Other trials with shorter courses of zidovudine, other antiretroviral drugs and non-drug interventions have been reported with varying degrees of efficacy (Lallemant et al., 2003; Guay et al., 1999; Dabis et al., 1999). These preventive strategies have resulted in dramatic declines in pediatric HIV and AIDS in the developed

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world.

Prevention of mother to child transmission (PMTCT) is a commonly used term for programmes and interventions designed to reduce the risk of mother to child transmission (MTCT) of HIV/AIDS. Prior to setting up PMTCT services in a new site, it is recommended that a formative research be carried out to generate data on the knowledge, attitude, belief and practices of health care providers and community members as it relates to HIV/AIDS and PMTCT (National guidelines for Prevention of Mother to Child, 2005)

The purpose of this study is therefore to assess the awareness, knowledge, misconceptions and attitude to HIV/AIDS among women booking for antenatal care in the university of Uyo teaching hospital. This will aid in the development of site specific counselling and other PMTCT interventions.

## MATERIALS AND METHODS

This study was carried out in the antenatal clinic of the University of Uyo teaching hospital, a newly established tertiary health facility located on the outskirts of Uyo, the capital of Akwa Ibom State, Nigeria. It is the only tertiary health facility in the state at the moment and receives patients from all over the state and beyond. From the period between September and December 2005, all women booking for antenatal care in the hospital were recruited for the study. Pre-tested structured questionnaires based on sections 1 and 9 of the modified version of the instrument for national HIV/AIDS and reproductive health survey (NARHS, 2003), on knowledge, opinion and attitude to HIV/AIDS were administered to the subjects. This was usually done before the normal health talk which includes general information on HIV/AIDS. Women who had prior antenatal care or counselling for HIV/AIDS in the index pregnancy were excluded from the study.

The data were analysed using the statistical package for social sciences (SPSS) version 11.0. Respondents' level of general knowledge of HIV/AIDS and MTCT were computed by judging their answers to questions on modes of transmission of HIV/AIDS and MTCT. A mark was awarded for every correct response and no mark awarded for incorrect responses. The total mark obtainable was 7 for knowledge of HIV/AIDS and 3 for MTCT. Respondents were assessed as having a fair/ good knowledge if they scored 4 out of 7 and 2 out of 3 and above, respectively. Scores below these were assessed as poor knowledge. Comparison of categorical data was done using the Chi-square test ( $\chi^2$ ). The corresponding P value was found to determine the level of significance. P value of < 0.05 was used as criterion for statistical significance.

## RESULTS

263 questionnaires were duly completed and submitted. The ages of the respondents ranged from 12 - 44 years, mean 26.99 ± 5.08 years. 234 of them (89.0%) were married and of these, 90.1% were in a monogamous relationship and 5.7% in a polygamous relationship. Majority of the respondents were educated, 113 (42.9%) had tertiary education and 116 (44.1%) had a secondary education. 95 respondents (36.1%) were professionals or skilled workers, but majority of them 137 (52.1%) were either unemployed, unskilled or belonged to unclassified

**Table 1.** Socio-demographic characteristics of the respondents.

Characteristic	Frequency (%)
<b>Age (years)</b>	
11-20	25 (9.5)
21-30	169 (64.3)
31-40	54(20.5)
40 years	2 (0.8%)
No response	13 (4.9)
<b>Marital status</b>	
Never married	11 (4.2)
Married	234 (89.0)
Separated	1(0.4)
Divorced	1(0.4)
Widowed	1(0.4)
Live in lover	13 (4.9)
No response	2(0.8)
<b>Educational status</b>	
No formal Education	2(0.8)
Primary Education	31(11.8)
Secondary Education	116 (44.1)
Polytechnic/COE	44(16.7)
University Education	69(26.2)
No response	1(0.4)
<b>Occupation</b>	
Professional	57(21.7)
Skilled Worker	38(14.4)
Unskilled Worker	117 (44.5)
Unclassified	15 (5.7)
Unemployed	5(1.9)
No response	31(11.8)

occupations (Table 1). 249 (94.7%) respondents were christians, 7 (2.7%) were muslims and there was no response from 7(2.7%) respondents. Majority of them 199 (75.7%) were Ibibio, 25 (9.5%) were Ibos, 16 (6.1%) were Efiks, 8 (3.0%) Hausas, 1(0.4%) and 12 (4.6%) belonged to other tribes.

252 respondents (95.8%) were aware of or had heard of HIV/AIDS, there was however no response by 11 (4.2%) respondents. Main sources of information were television in 104 (39.5%) respondents, radio, 95 (36.1%) and other sources included sex partner 2 (0.8%), newspapers/magazines, pamphlet/posters, friends, health workers and family members in 10 (3.8%) respondents.

Majority of the respondents, 228 (86.7%) had good knowledge of HIV/AIDS and correctly answered most of the questions on the virus and its modes of transmission while 26 (9.9%) respondents were assessed as having a poor knowledge of HIV/AIDS. Misconceptions about HIV/AIDS included answers by 39 (14.8%) respondents that a mosquito bite could transmit HIV/AIDS, 54(20.5%) did not know that the use of condoms were protective,

**Table 2.** Knowledge of HIV/AIDS.

Question	Yes (%)	No (%)	Do not know (%)	No response (%)
Does correct use of condoms protect from HIV	154 (58.6)	54 (0.5%)	17 (17.5%)	9 (3.4)
Can mosquito bite transmits HIV	39 (14.8)	160 (60.8)	53 (20.2)	11 (4.2)
Can having an uninfected faithful sex partner protect	191 (72.6)	31 (11.8)	27 (10.3)	14 (5.3)
Can abstinence from sex protect	166 (63.1)	38 (14.4)	45 (17.1)	14 (5.3)
Can sharing a meal with infected person transmit HIV	36 (13.7)	178 (67.7)	38 (14.4)	11 (4.2)
Can sharing of infected needles transmit HIV	232 (88.2)	10 (3.8)	10 (3.8)	11 (4.2)
Can a healthy looking person be infected	209 (79.5)	18 (6.8)	23 (8.7)	13 (4.9)
Can a pregnant infected woman transmit HIV to her unborn child	211 (80.2)	12 (4.6)	23 (8.7)	17 (6.5)
Can antiretroviral medication reduce risk of transmission	148 (56.3)	79 (30.0)	36 (13.7)	0 (0%)
Can an infected woman transmit the virus to her new born child by breastfeeding	177 (67.3)	(9.5)	43 (16.3)	18 (6.8)

**Table 3.** Relationship of educational status/occupation and knowledge of HIV/AIDS

Educational status	Group knowledge of HIV			$\chi^2$ (p-value)
	Good	Poor	Not categorised	
No formal Education	2	0	0	$\chi^2 = 10.662$ (P = 0.031)
Primary	27	2	2	
Secondary	91	19	6	
Polytechnic/COE	42	2	0	
University	66	3	1	
<b>Occupation</b>				
Professional	50	6	1	$\chi^2 = 1.204$ (P = 0.877)
Skilled	31	5	2	
Unskilled	102	11	4	
Unclassified	13	2	0	
Unemployed	5	0	0	

while 36(13.7%) respondents said that HIV/AIDS could be transmitted by sharing a meal with an infected person (Table 2). 202 respondents were also assessed as having good knowledge of mother-to-child transmission but 115 (43.7) did not know that antiretroviral medication could reduce risk of MTCT and 68 (28.5) of them did not know that breastfeeding carried a risk of MTCT.

There was a significant association between knowledge of HIV/AIDS and the educational status of the respondents. 108 respondents (95.6%) with tertiary education had good knowledge of HIV/AIDS compared with 120 respondents (80%) with secondary education and below

$\chi^2 = 10.662$ , DF = 4, P = 0.031 (Table 3).

There was no significant association between knowledge of HIV/AIDS and the occupation of the respondents:

$\chi^2 = 1.204$ , DF = 4, P = 0.877.

117 (44.5%) respondents had previously been tested for HIV. 26 (10.7%) of them had undergone voluntary testing,

while testing in 53 (20.2%) of them was mandatory. 38 respondents (14.4%) however did not specify the type of testing done. 170 respondents (64.6%) agreed that confidential testing was possible in their community, 37 (14.1%) felt it was not possible and 35 (13.3%) did not know (Table 4).

There was no statistically significant association between knowledge of HIV and previous testing as only 110 respondents (48.2%) with good knowledge of HIV and 7 (26.9%) respondents with poor knowledge had previously been tested:

$\chi^2 = 1.684$ , DF = 1, P = 0.194 (Table 5)

## DISCUSSION

This study reveals that the awareness of HIV/AIDS among the antenatal attendees is high. This is corroborated by other Nigerian studies which have shown a high level of awareness of HIV/AIDS among the general populace (Anochie and Ikpeme, 2003; Oboro and Tabowei,

**Table 4.** Previous HIV testing of the respondents.

<b>Previous HIV testing</b>	<b>Frequency (%)</b>
Yes	117 (44.5)
No	114 (43.3)
No response	32 (12.2)
<b>Type of test (n=117)</b>	
voluntary testing	26 (22.2)
Mandatory testing	53 (43.5)
Not specified	38 (32.5)

**Table 5.** Relationship between knowledge and previous HIV testing.

<b>Knowledge</b>	<b>Yes</b>	<b>No</b>	<b>No response</b>	<b>Chi-square (p-value)</b>
Good	110	100	7	1.684
Poor	7	14	25	P = 0.194

2003). This high level of awareness could be explained by the widespread dissemination of information on HIV/AIDS in the mass media especially the radio/television and shows its importance in the promotion of HIV/AIDS campaigns. Very few respondents admitted to prior information about HIV/AIDS from their spouses or other family members. This is a reflection of the low level of family life education among the respondents and is consistent with findings in other Nigerian reports (Oboro and Tabowei, 2003).

The study also revealed that a large proportion (86.7%) of the respondents had good knowledge of HIV/AIDS, however there were various misconceptions regarding the mode of transmission and gaps in their knowledge as 14.8% and 13.7% of respondents felt that HIV could be transmitted by a mosquito bite and sharing a meal with an infected person, respectively. These figures were however less than what was reported among health workers in Lagos state (Abebajo et al., 2003). Such misconceptions create derogatory tendencies leading to discrimination and stigmatisation of people living with HIV/AIDS (Abebajo et al., 2003; UNAIDS, 2001). This negative attitude can be redressed by the provision of correct information on modes of transmission, during counselling sessions.

A large number of respondents did not know that anti retroviral medication reduced the risk of MTCT or that breast feeding is associated with risk of transmission of virus from mother to child. Anti retroviral prophylaxis and infant feeding counselling are important strategies recommended for the prevention of mother to child transmission of the virus. This lack of awareness of ARVs thus represents a very important constraint to the PMTCT initiative and if not corrected would deprive these women of its proven benefits (Ekanem and Gbadesin, 2007). Usually during counselling, HIV positive women are given information about the risks breast feeding may pose for transmitting the infection to their newborn child and exclusive

feeding with breast milk substitutes are often recommended. However, this is often difficult to implement due to adverse socio-economic circumstances and also because breast feeding is a strong cultural norm in African societies (Memoona, 2004). The resultant effect is the adoption of mixed feeding which is associated with more risk of transmission of the virus and diarrhoeal disease. Thus, exclusive breast feeding can be recommended for mothers who cannot afford or do not wish to formula feed (Memoona, 2004; National guidelines for Prevention of Mother to Child, 2005).

The statistically significant relationship between the level of education and knowledge of HIV/AIDS was found in other Nigerian studies (Abebajo et al., 2003; Ekanem and Gbadesin, 2007) and could partly be explained by the fact that highly educated people usually have more access to information of all types including that on HIV/AIDS.

In this study a large number of the ANC attendees (44.5%) had previously been screened for HIV/AIDS. This was lower than the earlier report among a group of antenatal clinic attendees in Enugu, Nigeria (Ezegwui et al., 2005) but higher than that found in Lagos (Ekanem and Gbadesin, 2007). Majority of these tests were however mandatory, with no pretest and often no post test counselling and was similar to the report among ante-natal clinic attendees in Lagos (Ekanem and Gbadesin, 2007). This trend of mandatory testing by health care providers with little consideration for the patients should be discouraged. Studies outside Africa have shown that with the provision of adequate counselling, the number of people willing to be tested will increase (Joo et al., 2000). Many respondents agreed that confidential testing was possible in their communities. This is an encouraging fact, as confidentiality is an important consideration affecting people's willingness to be tested for HIV due to fear of stigmatization (Ekanem and Gbadesin, 2007).

The prospects for HIV/AIDS control depend largely on recognizing the scale of the threat and implementing policies to counter it (Anochie and Ikpeme, 2003). Though awareness/knowledge of HIV was found to be high among antenatal clinic attendees in this study, adequate counselling should be given to all clinic attendees. This should include correct information on mode and prevention of HIV transmission, the benefits of anti retroviral therapy, infant feeding counselling and other necessary interventions. This will help to dispel misconceptions about the HIV/AIDS and thus reduce the stigmatisation of people living with the virus. It will also encourage voluntary testing not only by the antenatal clinic attendees but by the general population.

In order to reduce the burden of mother-to-child transmission of HIV/AIDS, emphasis should be placed on early booking of pregnant mothers and detection of the virus, provision of anti retroviral prophylaxis for infected pregnant mothers, hospital deliveries and proper infant feeding.

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