

ORIGINAL RESEARCH ARTICLE

Knowledge, Attitudes and Barriers towards Prevention of Mother-To-Child Transmission of HIV among Women Attending Antenatal clinics in Uyam District of Zaki-Biam in Benue State, Nigeria.

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Abstract

Benue State in North Central Nigeria has one of the highest HIV/AIDS prevalence rates of 9.3%, among children and adults aged 13-45 years. To improve the survival of mothers and children and to identify the major challenges in scaling-up PMTCT services, a descriptive study was conducted to assess knowledge, attitudes and barriers to the uptake of PMTCT by 384 women attending antenatal clinics (ANC) in Uyam, Zaki-Biam, a semi-urban area of Benue State. A standard questionnaire was used for data collection. A high number of subjects knew that unprotected sexual intercourse is a risk factor for transmission, with most 281 (73.2%) of them aware that an HIV infected woman could get pregnant; while 275 (71.6%) knew that infection can be transmitted from the mother to her unborn child. Only 214 (55.7%) of the study participants had done the HIV test in pregnancy because of, inadequate VCT centers, issues of stigma and absence of family support including attitudes of staff. Age, parity and socio-economic status, as well as location influenced the responses of respondents. In spite of the increasing public awareness in Nigeria about HIV/AIDS, there still exist gaps as a result of different levels of education and access to information, coupled with lack of trained personnel and adequately equipped health care facilities. To improve survival and probably eliminate HIV/AIDS, the integration of PMTCT into primary health care services in Nigerian communities should be considered. (*Afr J Reprod Health* 2012; 16[3]: 27-34).

Résumé

L'Etat de Benue dans le Centre-Nord du Nigéria a l'un des taux de prévalence les plus élevés du VIH / SIDA de 9,3%, chez les enfants et les adultes âgés de 13 ans-45 ans. Afin d'améliorer la survie des mères et des enfants et d'identifier les défis majeurs en vue d'augmenter les services de PTME, une étude descriptive a été réalisée pour évaluer la connaissance, des attitudes et des obstacles à l'adoption de la PTME par 384 femmes qui fréquentent la SCP à Uyam, Zaki-Biam, une zone semi-urbaine de l'Etat de Benue, du 21 mars au 20 juillet, 2011. Un questionnaire standard a été utilisé pour collecter des données. Un grand nombre de sujets savaient que les rapports sexuels non protégés est un facteur de risque pour la transmission, avec la plupart d'entre elles 281 (73,2%) étant conscientes qu'une femme séropositive peut tomber enceinte, tandis que 275 (71,6%) savaient que l'infection peut être transmise par le mère à son enfant à naître. Seulement 214 (55,7%) des participantes à l'étude avaient subi l'analyse pour déterminer la présence du VIH pendant la grossesse en raison de manque de centres de CDV, les problèmes de la stigmatisation et le manque de soutien de la famille y compris les attitudes du personnel. L'âge, la parité et la situation socio-économique, ainsi que le milieu social ont influencé les réponses des interviewées. En dépit de la prise de conscience croissante du public au Nigéria sur le VIH / SIDA, il existe encore des lacunes à cause de différents niveaux d'éducation et d'accès à l'information, ajoutés au manque de personnel qualifié et d'établissements de santé suffisamment équipés. Pour améliorer la survie et probablement pour éliminer le VIH / SIDA, l'intégration de la PTME dans les services de santé primaire dans les communautés nigérianes devrait être envisagée (*Afr J Reprod Health* 2012; 16[3]: 27-34).

Keywords: Knowledge, Attitudes and Barriers, PMTCT, HIV/AIDS, Zaki-Biam

Introduction

Over two-thirds of the 33.2 million people infected with HIV worldwide live in sub-Saharan Africa.¹ Prevalence rates in the past were as high as 35% in

some countries of this region with the majority of those infected being between the ages of 15-49 years.²⁻³ With a population of over 140 million people, the HIV prevalence rate among low risk adults in Nigeria is 3.9% (2007), representing

close to 10% of the worldwide pandemic in terms of absolute numbers. HIV prevalence is quite heterogeneous across the country; large scale surveillance efforts of antenatal populations have been providing estimates/prevalence by different states and regions across the country.⁴ Hence Nigeria may be under varied burden of HIV infection. Benue state has been found to be among the highest zones of HIV/AIDS in Nigeria, with prevalence rates of 9.3 %.⁵

The HIV epidemic has had a devastating effect on children and young people under 15 years of age, with an estimated 2 million (1.9-2.3million) people infected with HIV, and 370,000 (330,000-410,000) new infections in 2007.⁶ In sub-Saharan Africa, approximately 12million children under 18 years old have been orphaned through HIV.⁷ A total of 90% of HIV-infected children live in sub-Saharan Africa having acquired HIV through MTCT during pregnancy, delivery or through breastfeeding, although transmission during early pregnancy is rare.⁸⁻⁹ Children who are HIV exposed, but not themselves infected, are at an increased risk of morbidity and mortality.¹⁰⁻¹² particularly if they have lost their mothers.¹³⁻¹⁴

Rates of HIV transmission from mothers to children have varied in different parts of the world.¹⁵ Most studies in US and Europe have documented transmission rates in untreated women to be between 12-30%.¹⁵ In contrast, transmission rates in Africa and Haiti were reported to be higher (25%-52%).¹⁴ It is generally accepted that 30-40% of newborn are infected in-utero as evidenced by positive viral culture or polymerase chain reaction (PCR) tests within the first week of life.¹⁴ The mechanism of transmission appears to be exposure to infected blood and cervico-vaginal secretions in the birth canal where HIV is found in high titers during late gestation and during delivery; breastfeeding is also an important transmission route in developing countries,¹⁴ such as Nigeria.

In 2001, the United Nations General Assembly Special Session (UNGASS) recognized the effect of HIV/AIDS on maternal and child health through the declaration of commitment from the assembly which stated that the proportion of infants infected with HIV should be reduced by 20% by 2005, and by 50% by 2010.¹⁷ This goal was to be achieved

by ensuring that 80% of pregnant women attending antenatal care have access to HIV prevention services. The world Health Organization (WHO) promotes a three pronged approach to reduce MTCT of HIV, through the prevention of new infections in parents, avoiding unwanted pregnancies in HIV infected women (primary prevention) and preventing transmission of HIV from an infected mother to her infant (secondary prevention).¹⁸ Despite evidence for effective prevention of MTCT of HIV through a combination of antiretroviral prophylaxis, elective caesarean section and abstinence from breastfeeding which has reduced MTCT of HIV to < 2% in developed countries, this has not been possible in resource poor countries even in settings where there has been widespread implementation of PMTCT programs.¹⁹

Mothers should therefore be motivated to be aware of HIV/AIDS and to recognize their sero-status and the routes of transmission to infants/children and the treatment available for those who need it. This can only be achieved through a comprehensive functioning, and accessible voluntary counseling and testing (VCT), and treatment services including PMTCT programs that attempt to eliminate all barriers that limit access especially to community based rural women. This study was therefore, carried out to assess the knowledge, attitudes and barriers to MTCT of HIV by women attending antenatal clinic in a semi-urban area of Benue State in North Central Nigeria.

Patients and Methods

The study was conducted from 21st March to July 20th, 2011 using pretested questionnaires administered on women attending antenatal care (ANC) and postnatal mothers (those who had delivered live babies in the last six weeks) in rural health centers in Uyam district of Zaki-Biam, a semi-urban area of Benue State, in North Central Nigeria. The questionnaire was designed to assess the level of knowledge of pregnant and postnatal women concerning HIV/AIDS, and prevention of mother to child transmission (PMTCT) including their attitudes and the barriers hindering their access to the PMTCT of HIV services. The

interviewers were trained and encouraged to be careful not to suggest answers to the patients especially those who needed translators. The study was explained to each selected patient and verbal consent obtained. All postnatal mothers and those attending ANC who gave consent were enrolled in the study with the exception of mothers with still births, preterm and congenital malformations. No selected patient refused to participate and no patient was interviewed on more than one occasion.

The questionnaires recorded basic demographic data such as age, parity, educational status and marital status. The questionnaires were closed-ended and included questions about basic knowledge of HIV/AIDS as well as MTCT including barriers against patients to PMTCT services. They were also assured that the information provided would be kept confidential.

The sample size was calculated using the formula; $n = Z^2 pq/d^2$, where n = the desired sample size, Z = standard normal deviate, and is a precision to an acceptable approximation of the population and it was taken as 1.96 which corresponds to the 95% confidence level: P is the proportion in the target population estimated to have a particular characteristic. P is therefore the proportion of mothers with knowledge about MTCT of HIV. Since there are no studies on mothers regarding this topic in this locality, p is taken as 50% to achieve the maximum sample size. D is the absolute precision, and is taken as 0.05, $q = 1.0 - p$ therefore, $n = (1.96)^2 0.5(1-0.5) / (0.05)^2 = 384$. The sample size was calculated to be 384 using this formula. The result of the study was analyzed using SPSS statistical software.

RESULTS

A total of 384 mothers participated in the study. The age range was 14 to 46 years old, with a mean of 26.6 ± 1.4 years. The majority 227(57.1) were ≤ 30 years old, 202(52.6%) were gravida 5 or more and 220(57.3%) were those who booked in index or last pregnancy. 329(85.8%) of the respondents were married at some point, 262(68.2%) were housewives, this was followed by those who were divorced or separated 67(17.5%) and the remaining were single parents 55(14.3%). On the

educational status, 180(46.9%) were mothers who had attained secondary school education, 89(23.2%) had only primary school education while 66(17.2%) had no formal education (table 1).

Table 1: Socio-Demographic Characteristics of the respondents

VARIABLES	NUMBER	PERCENTAGE (%)
AGE (Years)		
<15-20	36	9.4
21-25	68	17.7
26-30	123	32.0
31-35	69	18.0
36-40	42	10.9
≥ 41	46	12.0
PARITY		
0	5	1.3
1	22	5.7
2	36	9.4
3	56	14.6
4	63	16.4
≥ 5	202	52.6
BOOKING STATUS		
Booked	220	57.3
Un-booked	164	42.7
BOOKING GESTATIONAL AGE		
1-13 weeks	168	43.7
14-26 weeks	147	38.3
≥ 27 weeks	69	18.0
MARITAL STATUS		
Divorced	67	17.5
Married	262	68.2
Single	55	14.3
EDUCATIONAL STATUS		
None	66	17.2
Primary	89	23.2
Secondary	180	46.9
Tertiary	49	12.8

Knowledge of PMTCT of HIV/Risk factors:

Table 2: shows the knowledge of risk factors for PMTCT in the study population. All the respondents reported to have heard about the

disease HIV/AIDS. A high number of subjects knew that unprotected sexual intercourse and blood transfusion are risk factors for transmission, with most of the respondents 281(73.2%) aware that an HIV infected woman could get pregnant; and an equally high number 275(71.6%) were aware that infection can be transmitted from the mother to her baby before, and during birth. 268(69.8%) also said all babies born to HIV infected mothers' could acquire the infection. Awareness of breastfeeding as a source of infection by new born was high at 321(83.6%). About 279(72.7%) were aware that prolonged rupture of membranes is a risk factors for MTCT

of HIV, but 265(69.0%) of respondents said women found to be HIV infected in labour can not benefit from MTCT of HIV. On the other hand, 221(57.6%) of subjects said prophylactic antiretroviral drugs can be used to prevent transmission during pregnancy and breastfeeding. Table 3: Shows that 214(55.7%)of the attendants had done the HIV test with a significant 170(44.3%) who did not do the test for various reasons ranging from inadequate voluntary counseling and testing centers in the locality to issues of stigma and absence of family support.

Table 2: Knowledge of PMTCT of HIV

Risk factors	N (%)
Can an HIV infected woman get pregnant?	
Yes	281 (73.2%)
No	63 (16.4%)
Not sure	40 (10.4%)
Can HIV infection be transmitted from a mother to her unborn child?	
Yes	275 (71.6%)
No	109 (28.4%)
All babies born to HIV infected mothers will acquire the infection.	
Yes	268 (69.8%)
No	116 (30.2%)
Babies can acquire the infection from breastfeeding by an infected mother.	
Yes	321 (83.6%)
No	63 (16.4%)
Unprotected sexual intercourse and Blood transmission are risk factors for MTCT of HIV in Pregnancy	
Yes	313 (81.5%)
No	71 (18.5%)
Are drugs available to prevent MTCT of HIV?	
Yes	221 (57.6%)
No	163 (42.4%)
Women found to be HIV infected in labour cannot benefit from MTCT Care	
Yes	265 (69.0%)
Prolonged rupture of fetal membranes increases risk of MTCT of HIV	
Yes	119 (31.0%)
No	279 (72.7%)
	105 (27.3%)

Table 3: Barriers to Uptake of PMTCT Services

Variables	N (%)
Have you ever done the HIV test?	
Yes	214(55.7%)
No	170(44.3%)
Do you know where you can get PMTCT services?	
Yes	284 (74.0%)
No	100 (26.0%)
PMTCT services are too expensive.	
Yes	167 (43.5%)
No	217 (56.5%)
PMTCT services are not available close to my area.	
Yes	244 (63.5%)
No	140 (36.5%)
Stigmatization is a worry to me.	
Yes	250 (65.1%)
No	134 (34.9%)
Health care providers are not friendly?	
Yes	174 (45.3%)
No	210 (54.7%)
Health care facilities are understaffed.	
Yes	232 (60.4%)
No	152 (39.6%)
Partner does not allow me to attend antenatal/PMTCT clinic.	189 (49.2%)
Yes	
No	195 (50.8%)
Has any healthcare worker advised you to screen for HIV in pregnancy	267 (69.5%)
Yes	117 (30.4%)
No	

Barriers to uptake of PMTCT services

Although majority of the women studied 267 (69.5%) admitted that they were given advice about HIV testing in pregnancy, many could not access the services. The most common barrier to uptake of PMTCT services in the community was fear of stigmatization 250(65.1%), followed by non-availability of PMTCT services close to the respondents 244(63.5%) and understaffing 232(60.4%) of health care facilities. There were also complaints about unfriendly attitude of health care providers 174(45.3%). The least common barriers reported among participants was knowledge about the location of PMTCT

services 100 (26%), while lack of permission and/or encouragement from partners was reported by 189(49.2%) of the respondents. On the question of drug availability for the treatment of PMTCT of HIV, age and parity significantly influenced the knowledge of the respondents on the subject in the study population (table 4).

Discussion

There is increasing public awareness in Nigeria about HIV/AIDS as has been found in other parts of Africa and this varies with different levels of education and access to information,²⁰ which may also be related to the age group, parity and

Table 4: Factors Influencing the Knowledge of Drugs Availability for PMTCT or HIV (N = 384)

Variable	Drugs Availability for PMTCT	
	NO n (%)	Yes n (%)
Age Years		
≤ 20	29 (7.5)	10 (2.6)
≥ 20	134 (34.9)	211 (55.0)
Total	103 (42.4)	221 (57.6)
Parity		
≤ 1	10 (2.6)	19 (5.0)
2 – 3	38 (9.9)	58 (15.1)
≥ 4	115 (29.9)	144 (37.5)
Total	163 (42.4)	221 (57.6)

socioeconomic status. Table 1 shows the various demographic variables of the study population. This study was done at Uyam district of Zaki-Biam a semi-urban community in North Central Nigeria, where the major preoccupation of the people is farming. It is also in this locality that one of the biggest agricultural (yam) markets in Nigeria is situated. We therefore, examined the level of knowledge, attitudes and barriers of women attending both the antenatal/postnatal clinics towards HIV/AIDS and PMTCT services in the locality.

The 2007 National HIV and AIDS and Reproductive Health Survey (NARHS) of the Federal Ministry of Health reported that, awareness about HIV and AIDS was generally high in the country (94%), and the antenatal clinic attendance was put at 63%. The proportion that received ANC was higher among urban (83%) compared to rural dwellers (54%). The National HIV prevalence rate in this survey was 3.6% and was slightly higher (3.8%) in the urban compared with the rural areas (3.5%). The highest prevalence was seen in the North Central zone (5.7%).²⁰ The average prevalence was 9.3% in 2001 in Benue State,⁵ where this study was done. A high level of awareness was shown on HIV in this study, with all the respondents indicating that they had heard about HIV/AIDS. This is similar to a comparative study among schizophrenics and diabetic patients in regard to HIV/AIDS in Nigeria.²¹ Uptake of antenatal services in low and middle income

countries is high with at least one attendance in 80% of women.²² The increasing antenatal clinic coverage could provide the opportunity to scale up ANC services while providing VCT and to start anti-retroviral treatment for the PMTCT of HIV/AIDS.

In this study 313 (81.5%) of the participants were aware that unprotected sexual intercourse is a risk factor for transmission; and 275 (71.6%) knew that HIV can be transmitted from an infected mother to her unborn baby. This is higher than the Kumasi study²³ but consistent with findings in another study among postnatal women in Tikur Anbessa and Zewditu Memorial Hospitals, Addis Ababa, where 89.8% of mothers knew that HIV can be transmitted from an infected mother to her baby.²⁴ In similar findings in Isiolo and Garissa districts of Kenya, 84% and 83% knew about MTCT of HIV respectively.²⁵ Also, 281 (73.2%) of respondents accepted that an HIV infected woman can get pregnant and, the proportions of those who knew about blood transfusion as a risk factor for MTCT of HIV was 58.3% although this may be low, those who knew that babies born to HIV infected mothers can acquire this infection were 286 (69.9%). The knowledge of other prenatal routes of transmission such as prolonged rupture of membranes and breastfeeding was also high (at 72.6% and 83.6% respectively), which is similar to another study in Thailand.²⁶

Although most of the mothers accepted when questioned that HIV counseling was routinely done in the antenatal clinics and 284 (74%) were aware of where to access PMTCT services, 265 (69%) of the respondents said women found to be HIV infected in labour could not benefit from PMTCT and only 221 (57.6%) were aware that prophylactic anti-retroviral drugs are beneficial for PMTCT of HIV in pregnancy. This calls into question the efficiency of the VCT services offered in the health facilities in Uyam district of Zaki-Biam in Benue State, North Central Nigeria. The relatively low level of acquisition of knowledge directly from health workers by clients in this study (267 out of 384 or 69.6%) is in tandem with the finding in Komfo Anokye Teaching Hospital, Kumasi,²³ as the decision to attend antenatal clinic and to do the HIV test is based on many factors including perceived

benefits for the mother and her unborn baby including availability of drugs for PMTC of HIV. Where there are real benefits in terms of ART, women are more likely to accept VCT in pregnancy followed by anti-retroviral treatment in positive cases in order to reduce MTCT of HIV even in breastfeeding populations.²⁷

Majority of the respondents in this study 248 (74.0%) said they knew where to get services while a significant proportion, 167 out of 384 or 43.5% were of the opinion that the cost of services was too high. The problem of understaffing of health facilities was highlighted by 232 (60.4%) while partners refusal for antenatal/PMTCT clinic attendance was seen in 189 (49.2%) of those interviewed. There has been increasing anecdotal evidence that spousal consent affects uptake of PMTCT services.²³ Some of the other identified barriers to PMTCT of HIV is the fear of stigmatization following a positive test seen in 250 (65.1%) of respondents in this study, with a resultant accusation of infidelity, abandonment, discrimination and violence.

The 2010 guidelines on PMTCT and infant feeding have great potentials to improve the mothers own health and to reduce mother-to-child HIV transmission risk to 5% or lower in a breastfeeding population, from a background transmission risk of 35% in the absence of interventions and with continued breastfeeding.²⁸ Combined with improved infant feeding practices, the guidelines can help to reduce both child mortality and new HIV infections as we work towards a HIV free world. This can be achieved by strengthening the health systems and the linkages between sexual and reproductive health and PMTCT services even at community based levels, especially in the developing world. This is evident as more than 75% of HIV infections are acquired through sexual transmission or through vertical transmission.

This is a hospital based study which has some limitations common to similar studies. The survey was self administered except among the illiterate respondents, and was therefore, open to bias but this was minimized because the survey was anonymous. No cross-tabulations were done to correlate the variables to the responses of the study population.

The strength of the study was in the ability to access a high risk population for PMTCT that had not been previously widely studied; and is one of the first studies describing knowledge, attitudes and barriers about PMTCT in this locality. It also reveals potential areas for further studies and interventions to improve PMTCT of HIV in this native community.

Contribution of Authors

Dr S. K. Hembah-Hilekaan and Dr T. Z. Swende conceived and designed the study. They also contributed to the initial and final drafts of this manuscript, while Dr T. T. Bitto was involved in the questionnaire collection and analysis of the data. All authors mentioned in the article approved the manuscript.

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