JOURNAL OF
COMMUNITY MEDICINE
&PRIMARY HEALTH CARE

Knowledge and practice of prevention of maternal to child transmission among HIV positive women of reproductive age in a tertiary hospital, south east Nigeria.

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Abstract

Background and Objective: Few years ago HIV positive status was initially thought to be a barrier to a fulfilling reproductive life. However, the advent of prevention of mother-to-child transmission (PMTCT) is gradually modifying the perception about HIV/AIDS, as well as offering people living with HIV/AIDS opportunity to attain their reproductive goals. This study was aimed at ascertaining knowledge and perception of PMTCT services among HIV positive women accessing anti-retroviral therapy in a tertiary hospital in south eastern Nigeria.
Methodology: The study was carried out among HIV positive women of reproductive age attending HIV Clinic in Nnamdi Azikiwe University Teaching Hospital, Nnewi, between July 2004 and March 2005. One hundred women living with HIV/AIDS who voluntarily consented to the study were recruited consecutively. Responses were elicited using a semi-structured interviewer-administered questionnaire on knowledge of mother to child transmission (MTCT), risk perception and prevention of MTCT (PMTCT) practices. Data collected were analysed using SPSS version 13.
Results: Majority (85%) of the women have heard of mother to child transmission of HIV. Only 20% of them knew that a HIV positive mother can transmit HIV virus to her baby either during pregnancy, labour or breastfeeding. Knowledge of prevention of mother to child transmission of HIV was fair and knowledge of family planning was low (9.0%). Twenty one (22.3%) of them who had been pregnant since being diagnosed of HIV received ante natal care in various health facilities, however only 12 (57.1%) utilized PMTCT services. Nine women (75.0%) out of twelve who utilized PMTCT services during their last pregnancy delivered in a facility providing PMTCT services. Prevalent feeding practice adopted by the mothers was feeding with infant formula (66.7%).
Conclusion: The study revealed gaps in knowledge and practice of PMTCT among HIV positive women who are desirous of satisfying their reproductive needs. This, underlines the need to improve PMTCT knowledge among HIV positive women.

Key words*:*: Utilisation, transmission, risk perception, infant feeding practiceses

Introduction

People living with HIV/AIDS (PLWHA) are no longer concerned with survival only, but also aspire to attain a fulfilled life. Initially, people in sub Saharan Africa had fatalistic attitude towards the disease, consequently they did not adopt any measure to either prevent or ascertain their status. However, the advent of anti-retroviral therapy (ART), particularly prevention of mother-to-child transmission is gradually modifying people's perception of HIV/AIDS. Women in sub Saharan Africa (SSA) have powerful motivations to have children, because most cultures are pro-natalist and thus expect women to have children.[1] HIV positive status was thought to be a barrier to a fulfilling sexual and reproductive life. Most HIV positive women who are of reproductive age desire not only a fulfilling sexual life but also opportunity to raise their own family.[2]

Mother-to-child transmission (MTCT) is the commonest means of acquiring paediatric HIV infection in sub Saharan Africa. Without prevention of mother-to-child transmission (PMTCT) intervention 10-35% of children born to HIV positive mothers are at risk of acquiring HIV infection, either during pregnancy, at birth or during breast feeding. However, studies have reported that PMTCT intervention reduces the risk of paediatric HIV transmission to less than 5 per cent.[3]

A number of factors are known to influence PMTCT utilisation. In sub Saharan Africa (SSA) and particularly in Nigeria access to PMTCT services is limited by availability and distance.[4] Though, there are many barriers to accessing PMTCT services in SSA and Nigeria in particular, it is believed that knowledge of MTCT and risk perception of women infected with HIV are major determinants of uptake of PMTCT services. Therefore this study was conducted to determine knowledge and perception of prevention of maternal-to-child transmission among HIV positive women in a tertiary hospital in south eastern Nigerian

Methodology

The study was carried out in Nnamdi Azikiwe University Teaching Hospital, Nnewi, a tertiary hospital involved in the provision of comprehensive HIV services since 2001. It was selected alongside 10 other tertiary health care facilities for the initial Nigerian Government-funded ART programme aimed at attaining the goal of "3 x 5 initiative". The facility provides services to clients within Anambra state and beyond including residents of border states like Imo, Delta and Enugu States.

The HIV clinic provides services five days a week except during public holidays, it is run by a multi-disciplinary team comprising of doctors - (community physicians, physicians, haematologists), nurses, counselors and laboratory scientists. However, the PMTCT services are domiciled in the Obstetrics and Gynaecology Department, while paediatricians are responsible for paediatric HIV cases. PMTCT counseling services are provided daily, however provision of ART prophylaxis is done weekly and on emergency basis. Although, there are six other centers in the state providing PMTCT services, more than 60% of PLWHA patronize the facility.

This study was carried out between July 2004 and March 2005. It is a cross-sectional, descriptive study. The study population was HIV positive women of reproductive age accessing anti-retroviral therapy in Nnamdi Azikiwe University Teaching Hospital, Nnewi. A total of 100 HIV positive women aged 15 - 49 years attending HIV clinic within the period were recruited consecutively for the study. As at the time of the study most of them were not pregnant, however a few of them had utilized PMTCT services during their last confinement. Only women who consented after explanation of the aim, procedure and benefits of study were interviewed. Responses were elicited using a semi-structured interviewer-administered questionnaire on knowledge of mother to child transmission (MTCT), risk perception and prevention of MTCT (PMTCT) practices. Data collected were analysed using SPSS version 13. Association between HIV risk perception and

socio-demographic status was tested using chi-squared test and level of statistical significance was set at 0.05.

Results

Although, a total of 100 women were selected only 94 completed questionnaires were analyzed. Most of them (26.6%) were within the age group of 30-34 years, followed by 25-29 years (17.0%) and 15-19 years (16.0%). which implies that about 60 per cent of them were equal to or less than 35 years. Majority of them (71%) were married and 80% of them had at least primary education. Majority of the women were engaged in trading and were all Christians (Table 1).

Most of them (75.0%) of them were diagnosed of HIV three years prior to the time of the study. The most common reasons for HIV testing were illness of the respondent (47.9%) and illness/death of spouse (24.5%).

Majority (85.0%) of the women had heard of mother- to- child transmission; and 63.5 % of those who have heard of it knew that it is transmission of HIV infection from mother to child (Table 2).

Table 1: Socio-demographic characteristics of respondents.

Sociodemographic Characteristics	*N=94*	*Percentage (%)*
Age (in years)		
15-19	16	17.1
20-24	16	17.0
25-29	25	26.6
30-34	11	11.7
35-39	14	14.9
≥40	12	12.8
Marital Status		
Married	67	71.3
Single	26	27.7
Nil response	1	1.1
Educational Status		
Nil	18	19.1
Primary	14	14.9
Secondary	49	52.1
Tertiary	13	13.8
Occupation		
Trader	37	39.4
Teacher	11	11.7
Student	10	10.6
Housewife	8	8.5
Civil Servant	6	6.4
Hairdresser	5	5.4
Applicant	5	5.4
Seamstress	4	4.3
Nurse	2	2.1
Others	6	6.4

Table 2: Knowledge of mother to child transmission

Knowledge of MTCT	*N=80*	*%*
Mode of transmission		
Mother to Child	51	63.7
Blood transfusion	13	16.3
Use of unsterilized sharps	11	14.3
Sexual contact	5	6.3
Timing of MTCT*		
During Pregnancy	31	38.8
During Labour	47	58.8
During Breast feeding	57	71.3
During Pregnancy, Labour and Breastfeeding	16	20.0

***Multiple responses**

Table 3: Knowledge of PMTCT methods

*Knowledge of PMTCT Methods**	*N=80*	
Use of ARVs	51	63.8
VCT	36	45
Eating well	35	43.8
Improved and safe obstetrics care	34	42.3
Education of mothers	28	35
Family planning	7	8.7
Abortion	2	2.5
Nil Response	14	17.5

***Multiple responses**

Knowledge of transmission through breast feeding (71.3%) was the most common route known by the women, while in utero transmission was least common route known to them. However, nineteen (20.0%) of them knew that HIV can be transmitted either during pregnancy, labour or breastfeeding.

All the patients who have heard of MTCT were also aware of PMTCT. More than 60% of the women knew that ARV drugs are used to prevent mother to child transmission of HIV. However, less than 10 % mentioned family planning as a method of PMTC T (Table 3).

Fifty four women (57.4%) believed that it is possible to pass on the virus to their baby if they become pregnant. Most of them (91.5%) believed that HIV positive women can give birth to HIV negative babies. Risk perception was neither influenced by marital status nor by educational status, but women aged 30 years and above perceived themselves as being at greater rise of transmitting HIV infection to their babies if they become pregnant (X^2=18.97, p=0.000) as shown in Table 4.

Fifty seven women (60.6%) expressed desire to get pregnant. When asked about measures to take to avoid undesired pregnancy, 37.2% of them did not respond. Among those that responded, condom (40.5%) was most common method used (Table 5).

Table 4: Respondents risk perception and socio-demographic status

Socio-demographic Status		*HIV can be passed on to unborn baby during pregnancy*		X^2	*p-value*
		YES N=54 (%)	*NO N=40 (%)*		
Age (in years)	15-19	6 (37.5)	10 (62.5)		
	20-24	8(50.0)	8 (50.0)		
	25-29	9(36.0)	16 (64.0)		
	30-34	9(81.8)	2 (18.2)	18.97 df=3	0.000
	35-39	11(78.6)	3 (21.4)		
	≥40	11(91.7)	1 (8.3)		
Marital Status	Married	41 (61.2)	26 (38.8)	0.96	0.326
	Not Married	13 (50.0)	13 (50.0)		
Educational Status	Nil	12 (66.7)	6 (33.3)	4.17	0.124
	Primary	11(78.6)	3(21.4)	df=2	
	Secondary	24(48.9)	25(51.1)		
	Tertiary	7(53.8)	6(46.2)		

Table 5: Types of contraceptives used by women

Method	*N=94*	*Percentage*
Condom	38	40.5
Periodic abstinence	5	5.3
Withdrawal method	1	1.1
Drugs	1	1.1
No longer have sex	2	2.2
No partner	1	1.1
No method	11	11.7
Nil response	35	37.2

Twenty one (22.3%) of them had been pregnant since being diagnosed with HIV/AIDS. They all carried the pregnancy till term and all utilized of ANC services in the course of the pregnancy. Table 6 shows pattern ANC utilization among them. Majority of them (57.1%) attended ANC in a tertiary (PMTCT) health facility, followed by 23.8% that utilized private hospitals. Similarly, preferred places of delivery were tertiary (PMTCT) hospital, (57.1%) and private hospitals (28.6%). However, 25.0% of women who attended ANC in tertiary health facility delivered in a private (non PMTCT) facility. Sixty per cent of those that visited private hospital for ante natal consultation delivered there, the remainder delivered in tertiary hospital. The only woman that utilized both tertiary hospital and health center during ANC delivered in the health center.

Most of them (52.4%) delivered by spontaneous vaginal delivery, 28.6% by elective caesarean section, while 14.3% by emergency caesarean section and one delivered by assisted vaginal delivery. Half of the people that delivered in the tertiary health facility delivered by elective caesarean section, and 25% by spontaneous vaginal delivery. The remainder delivered by emergency caesarean section (16.7%) and by assisted vaginal delivery (8.3%). Five out of six (83.3%) who delivered in private hospitals delivered by vaginal delivery and one delivered by emergency caesarean section.

Table 6: Place of ANC Attendance and Delivery

Health facility	*N=21*	*Percentage*
Place of ANC attendance		
Tertiary	12	57.1
Missions	3	14.3
Private Hosp	5	23.8
Tertiary & PHC	1	4.8
Place of delivery		
Tertiary	12	57.1
Missions	2	9.5
Private Hosp	6	28.6
PHC	1	4.8

Discussion

Only sixty six per cent of the women knew that MTCT is HIV transmission from the mother to child, and this was lower than 93% reported in Lagos.[5] This proportion is however higher compared to about 50 per cent reported in Kenya and Sudan,[6,7] but lower than 90 per cent reported in Ethiopia.[8] Transmission through breast milk was the most common known means of mother-to-child transmission, while in utero transmission was the least known route of MTCT. Knowledge of all the routes of maternal to child transmission was low. The proportion of HIV positive women who knew that HIV can be transmitted through breastfeeding was 74%. This was similar to the proportion of the general population in the state who demonstrated the same knowledge in 2007,[8] but higher than 58% reported in Lagos, 65% in the south east region [5,9] and less than 90% reported in Kenya.[6]

Eighty five per cent of them knew that HIV transmission from mother to child is preventable, and this is slightly more than 77% reported by Jebessa and Teka[10] in Ethiopia in 2002. The most common ways of preventing mother to child transmission known by the women included use of ARVs, voluntary counseling and testing, good nutrition and safe obstetric practices, however family planning and abortion were among the least known PMTCT methods. In 2003, only 6.4 per cent of the women in south east region, knew that ARVs can be used to prevent MTCT.[9] Knowledge of PMTCT methods as reported in an Ethiopian study conducted in 2004 included use of ARV (64%), abstinence from breast feeding (37%) and elective caesarean section (10.%).[10]

An assessment of PMTCT needs of migrants in Europe in 2002 showed that a good number did know that medications and bottle feeding can be used to prevent mother to child transmission of HIV. While they believed that caesarean section may reduce the risk of transmission, they also expressed fear that it could be a source of infection of unsterilised equipments are used. [11] About half if the women perceive themselves as being at risk of transmitting the virus to their fetus, even though most of them believed that a HIV positive mother can give birth to a HIV negative. Risk perception was significantly associated with age (X^2=18.97, p=0.000), as women aged 30 years and above thought that they were at greater risk of transmitting the HIV virus to their babies if they become pregnant.

Majority of the women expressed desire to have children, despite their serostatus. However, less than half took measures to avoid unintended pregnancy. Condom was the most common contraceptive method used by them while 10% of them did not adopt any specific measure to prevent pregnancy. In Lusaka, Zambia it was also reported that most HIV positive women preferred condom to other family planning methods. In contrast, HIV positive women in Kenya used more of injectables and pills to prevent pregnancy. Preventing unintended pregnancy among HIV-positive women through family planning

services is one of the four cornerstones of a comprehensive program for prevention of mother-to-child HIV transmission (PMTCT). According to the World Health Organization, a moderate reduction in the number of pregnancies among HIV-infected women would yield a reduction equivalent to the number of infections averted among infants of HIV-positive pregnant women.[12]

Evidence has shown that HIV positive women in sub-Saharan Africa have strong motivations to have children, and as such a good number of them may not use any family planning method. The reason being that most African culture are predominantly pro-natalist, thus expect women to have children. Women on their own are motivated by love for children, and caring for children provides a reason for living. However, within the context of HIV/AIDS, having children may be seen as affirming one's health or avoiding a partner's suspicions about HIV infection, driven in some cases by fear of abandonment. It can also be a way to hide HIV status from the community or remain in denial. [12]

Of all that have been pregnant since been diagnosed of HIV, 60 per cent of them utilized PMTCT services during ANC and delivery, and 25% of those who utilized PMTCT services during pregnancy, delivered outside a PMTCT facility. Client drop out has also been reported among PMTCT clients accessing services in a hospital in Kenya between enrollment and delivery. It further revealed that clients are likely to drop out of service utilisation for the following reasons inadequate counseling, stigma and discrimination, unsupportive spouse and inability to pay for the services. [13] However, we did not explore reasons for dropping out of PMTCT services.

Fifty per cent of the deliveries in the PMTCT facility were by elective caesarean section. While almost all the deliveries in the private facility were by spontaneous vaginal delivery. Emergency caesarean section and assisted vaginal delivery were carried out on HIV positive women who did not attend ANC in the facility who presented during labour. A study conducted in University Teaching Hospital Enugu in 2005, reported a lower caesarean section rate (33%) among PMTCT clients.[14] Those who delivered in private hospitals via spontaneous vaginal delivery might have done so either because they could not afford caesarean section or concern for their safety. However, it has been reported that the belief that delivery by caesarean section[11] makes you less of a woman than those who delivered naturally affects uptake of elective caesarean section.[11]

Feeding with infant formula was the preferred infant feeding practice among the women, however about 14% of them engaged in mixed feeding. In Enugu, it was reported that the all the HIV positive women who utilized PMTCT services used breast milk substitutes.[14] A review of infant feeding practices among HIV mothers in sub Saharan Africa and Asia[15] revealed that a little over half of the women in Abidjan preferred formula feeding, while about a quarter practiced exclusive breastfeeding and predominant breastfeeding. In South Africa less than 15% of the women practiced exclusive breastfeeding. In Thailand the use of artificial formula is almost 100 per cent driven primarily by government policy, in a country where the practice of exclusive breast feeding is practiced by greater than 95% of HIV negative mothers. A number of factors have been shown to influence mothers' choice of infant feeding practice and they include policy, tradition, information from health care workers, family pressure, educational and socioeconomic status. Most women who opt for formula feeding face the challenge of suspicion and prejudice from both family and community members. Family pressure was reported as the most common reason for changing feeding practice.[15-16] In most developing countries the practice of mixed feeding is quite high and this increases the risk of post natal MTCT.

Conclusion and Recommendations

There is need to further educate HIV positive women on PMTCT programmes as this will help create an environment conducive for their participation in PMTCT programmes, as well as enhance their uptake of PMTCT services.

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