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Full Length Research paper

Rate and correlates of HIV serostatus disclosure among HIV positive pregnant women in Nnewi southeastern Nigeria

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This is a cross sectional survey of 280 HIV positive pregnant women attending a PMTCT clinic in Nnewi, southeastern Nigeria to determine the rate, pattern, outcome, and barriers to HIV serostatus disclosure. All the women had known their status for more than three months. Two hundred and seventy two (97.1 %.) of the women had disclosed their HIV status. Out of this number, 90.0% disclosed to their husbands; 23.5% to a priest/pastor and 11.4% to a close family member. The only reason for non disclosure to husbands was the fear of divorce. The partner's reaction was supportive and understanding in all cases. Being single (x^2=11.46; p= 0.00), low educational status (x^2=7.64; p= 0.02), Anglican Christian denomination (x^2=84; p=0.00) and non membership of a support group(x^2=7.66; p= 0.00) significantly increased the likelihood of non disclosure. There was no significant association between age, parity, knowledge of partner's HIV status, duration of illness and the likelihood of serostatus disclosure. We conclude that the rate of serostatus disclosure among HIV positive pregnant women in Nnewi is high and the outcome is supportive. However, the fear of divorce should be addressed during post test counseling on serostatus disclosure.

Keywords: Serostatus disclosure, rates, barriers, Nigerian pregnant women, PMTCT

INTRODUCTION

The most emotive aspect of the HIV pandemic is the vertical transmission of the virus to the unborn baby. Hence, the newborn starts very early in life to struggle with the burden of the disease. It is estimated that approximately 2.2 million children are currently living with HIV and about 90 % of these infections are acquired through mother to child transmission (FMOH,2003). This transmission can occur either during pregnancy, delivery or breast-feeding.

This burden of mother to child transmission (MTCT) of HIV infection is expectedly highest within the sub-Saharan Africa because of higher prevalence of HIV in women of reproductive age group, a high total fertility rate (TFR), high rate of prolonged breastfeeding and poor access to effective interventions aimed at preventing MTCT(FMOH,2007). In these countries, Infant and child mortality have noticeably increased due to HIV infection either as a direct result of vertical transmission, or as a consequence of the impact of HIV-related deaths of the parents (UNICEF, 2002).

The current seroprevalence rate of HIV infection among pregnant women in Nigeria is 4.4% and varies among the regions (FMOH, 2005). The north central region of the country has the highest seroprevalence rate of 6.1% while the southwestern region has the lowest rate of 2.6%. The seroprevalence rate of HIV infection in the southeastern region is 4.7%.

Prevention of Mother to Child Transmission of HIV (PMTCT) programme is the means of reducing the rate of transmission of HIV from a woman to her fetus or newborn during pregnancy, delivery, or the postpartum period utilizing a four prong approach – prevention of HIV infection among all people; prevention of unwanted pregnancies among HIV-positive women; reducing the transmission of HIV during pregnancy, childbirth, and the postpartum period; and offering care and support to HIV positive women and their families (European collaborative study group, 2005). In the absence of these measures, an infant's risk of acquiring HIV from an infected mother ranges from 15% to 45% but with the

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application of the appropriate interventions as obtained in most developed countries, the rate is reduced to less than 2 per cent (Wiktor et al., 1999). At the Nnamdi Azikiwe University Teaching Hospital, Nnewi, HIV positive women who did not participate in PMTCT programme were found to have a transmission rate of 37.5% while those who participated fully had a transmission rate of 2.8 per cent (Ikechebelu et al, 2009)

The optimal utilization of these PMTCT interventions during pregnancy and puerperium such as adherence to antiretroviral drugs and avoidance of breastfeeding require the support of the woman's partner and other members of her family. This support is only possible if the woman's HIV status is known. It is known that women who had disclosed their status are more adherent to antiretroviral therapy than those who had not disclosed (Stirratt et al, 2006).

On the basis of its importance in limiting the spread of HIV infection including prevention of MTCT, sero status disclosure is currently emphasized by both WHO (UNAIDS,1997) and the Center for Disease Control (Morbidity and mortality weekly report, 2002) in their protocol for HIV counseling and testing. With disclosure, there is increased social and psychological support for the infected partner, which leads to enhanced access to HIV prevention and treatment programmes. It also encourages the adoption of risk reduction strategies including the use of condom among sexual partners. Women who had disclosed their HIV status are more likely to use condoms during all sexual encounters, less likely to have had subsequent pregnancy from a different sex partner, more likely to have a partner who had been tested for HIV and also more likely to be attending the HIV clinic for follow-up and care compared to those who did not disclose (Kumar et al.,2006).

The rate of serostatus disclosure varies among populations. In West Indies, only 28.8% of HIV seropositive women had disclosed their status (Kumar et al.,2006) while the reported serostatus disclosure rate in USA is 58.0% to 76.0% (Niccolai et al.,1999; Gielen et al., 2000). In Africa the rate of serostatus disclosure among the non pregnant population ranges from 22.0% in Tanzania to 77.0% in Nigeria (Antelman et al., 2001; King et al.,2008; Wong et al,2009; Maman et al.,2003; Akani et al.,2006) but the pregnant women serostatus disclosure rate ranges from 59.0% reported in South Africa (Makin et al.,2008) to 96.7% in Nigeria (Sagay et al.,2006; Ezegwui et al.,2009). The main barriers to HIV status disclosure among people living with HIV/AIDS include fear of stigmatization, abandonment, divorce, physical and emotional abuse, and several forms of deprivations (Kumar et al.,2006; Niccolai et al.,1999; Gielen et al., 2000; Antelman et al, 2001).

The fear of these retributions prevents women from disclosing their status and therefore, opportunities to prevent new infections are lost. Also the ability by these women to access appropriate treatment, care, and support services is limited. Studies have shown that in most cases of status disclosure, the partners' reaction is positive and supportive. In Enugu, Nigeria, 62.9% of the women reported positive outcome from their partners, following HIV status disclosure (Ezegwui et al.,2009), and a survey of outcome of serostatus disclosure among HIV positive women from sub-Saharan Africa showed that only 3.5% - 14.6% experienced violent reactions from their partners (Medley et al.,2004). There is therefore, a need to make this information available to the women during the post test counseling on partner disclosure.

It is particularly important to identify those HIV positive women who are most unlikely to disclose their HIV status for special follow up counseling. This has not been easy in HIV control programmes. However, some factors which have been associated with increased likelihood of disclosure include being married, pre test counseling, having a partner with tertiary education, less financial dependence on partners, and knowing someone with HIV (Makin et al.,2008). Other predictors of disclosure among HIV positive women include lower socioeconomic class, consistent use of condoms, being in a monogamous relationship, membership of Support Group for more than 2 years, and knowledge of partners HIV status (Niccolai et al., Antelman et al, 2001; King et al.,2008).

In Nigeria, limited information exist on status disclosure among HIV positive pregnant women (Sagay et al.,2006; Ezegwui et al.,2009). Considering the place of serostatus disclosure in promoting access and adherence to PMTCT interventions, it is necessary to provide more information on the rate, pattern, barriers, and outcome of HIV status disclosure among pregnant women enrolled into the PMTCT programme in this country. This study aims to evaluate serostatus disclosure among HIV positive pregnant women attending a PMTCT clinic in Nnewi, southeast geopolitical zone in Nigeria. The purpose is to facilitate initiatives at improving serostatus disclosure in order to curtail the spread of HIV infection. The knowledge shall also enhance partner testing and improve adherence to antiretroviral therapy.

SUBJECTS AND METHODS

Two hundred and eighty consecutive HIV positive pregnant women attending the antenatal clinic of the Nnamdi Azikiwe University Teaching Hospital Nnewi, who gave their consent for the study were recruited. All the respondents had known their status for at least three months. With the aid of pre-tested, semi structured questionnaires, information on biosocial characteristics as well as disclosure of their HIV status, and to whom they disclosed were obtained from the respondents. Also reasons for non disclosure and the outcome of the disclosure were also obtained.

Study design/setting

This is a cross sectional study carried out over four months (1st October 2009– 31st January 2010) at the Antenatal clinic of Nnamdi Azikiwe University Teaching Hospital, Nnewi, southeast Nigeria.

Sample size

The minimum sample size was determined by using the statistical formula of Fisher for calculating sample size (Araoye, 2003)
$N= Z^2pq/d^2$

Where
N = Minimum sample size for a statistically significant survey
Z = Normal deviant at the portion of 95% Confidence interval = 1.96
P = prevalence value of serostatus disclosure in a Nigerian health facility = 77.0 %(Akani et al., 2006) q = 1- p

d = margin of error acceptable or measure of precision = 0.05 N=272
Minimum sample size = 272
The sample size was adjusted 280 to improve the power.
Therefore, Sample size used was 280

Data Analysis

Data analysis was done with Epi info version 3.3.2. Student's T-test was used to compare means while chi square table was used to explore the effect of demographic and other variables on the likelihood of serostatus disclosure. A p- value of <0.05 at 95% confidence interval was taken as significant.

RESULTS

Table 1 shows the sociodemographic profile and other characteristics of the respondents. Majority of the women were married (92.9%), aged 30-34 years (42.9%) and belong to the parity group of 0-2 (74.3%). The mean age and parity were 31.0±4.6 and 2.09± 1.54 respectively. Two hundred and sixty five (94.6%) of the respondents had at least secondary education and most of them (62.9%) were Catholics. Majority knew the HIV status of their husbands (91.4%), belonged to a Support Group (54.3%) and had been HIV positive for more than two years (68.6%). Almost all (93.2%) received counseling on serostatus disclosure.

The factors that significantly increased the likelihood of non disclosure were being single (x^2=11.46; p=0.00), lower education (x^2=7.64; p=0.02), Anglican Christian denomination (x^2=84; p=0.00) and non membership of a Support Group(x^2=7.66; p= 0.00).

Two hundred and seventy two of the interviewed women had disclosed their HIV status, giving a serostatus disclosure rate of 97.1%. Out of this number, 90% disclosed to their husbands; 23.5% to priests/pastors and 11.4% to a close family member (table 2). The only reason for non disclosure was the fear of divorce. The partner's reaction was supportive and understanding in all cases and no negative reaction was reported.

DISCUSSION

Serostatus disclosure has a great implication for PMTCT in that it enhances adherence to key programme interventions, leads to increased utilization of preventive strategies and enables partner counseling and HIV testing (Stirrat et al.,2006; Kumar et al 2006).The rate of serostatus disclosure varies among countries and also within countries (Antelman et al, 2001; King et al.,2008; Wong et al,2009; Maman et al.,2003; Akani et al.,2006; Makin et al.,2008; Sagay et al.,2006; Ezegwui et al.,2009; Medley et al.,2004).

The serostatus disclosure rate of 97.1% found in this study is high and comparable to previous reports among pregnant women in Nigeria (Sagay et al., 2006; Ezegwui et al., 2009) but higher than 59.0% (Wong et al., 2009) reported among the South African women. One of the implications of this high disclosure rate is the likelihood of a high rate of partner support which will encourage adherence to antiretroviral therapy and other PMTCT interventions. An adherence rate of 63.0% had been reported from Nigeria, though among the non pregnant population (Olowookere et al., 2008; Shaahu et al., 2008). The pregnant mother needs the emotional and physical support of her partner to participate effectively in PMTCT programmes

The pattern of disclosure from this study shows that majority of the respondents had disclosed to their husbands/partners. This is a common trend (Akani et al., 2006; Makin et al., 2008; Sagay et al.,2006; Medley et al.,2004). Partner disclosure ensures emotional, physical and psychological support from the affected partner and increases the partner's ability to access preventive strategies. A significant proportion of the respondents disclosed their HIV status to their priest/pastors. A similar finding was also noted in Nigeria by Akani et al (2006). This is not surprising as priests/pastors do offer spiritual counseling and hope to the patients, thereby encouraging access to interventions.

The study also found that a reasonable number of the respondents disclosed their status to close family members. This corroborates a previous study in Nigeria where the majority of those studied confided in close family members (Ezegwui et al., 2009). Family support is very important in PMTCT programmes for optimal access to preventive strategies such as avoidance of breastfeeding and adherence to therapy. In Nigeria the mothers were more likely to be confided in, than the fathers with respect to HIV status disclosure (Akani et al., 2006; Ezegwui et al., 2009). This has implications for safer infant feeding in our environment because in the traditional Igbo setting, the nursing mother is expected to be with her mother for the first one to two months following delivery. During this period, she is expected to be attended to by her mother who also oversees the care of the new born and observance of some traditional postpartum practices. Under this arrangement, it will be difficult for the young mother not to breastfeed her newborn without raising suspicion from her mother and other relatives, if she has not disclosed her HIV status.

Table 1. Sociodemographic factors and other characteristics of the respondents and their influence on serostatus disclosure. (n=280)

Factors	Frequency (%)	Serostatus disclosure		X2	df	OR	P-value
		Yes (%)	No (%)				
Age							
20-24	25(8.9)	25(100.0)	0(0.0)				
25-29	79(28.2)	79(100.0)	0(0.0)	7.12	3		0.06
30-34	120(42.9)	113(94.2)	7(5.8)				
≥35	56(20.0)	55(98.2)	1(1.8)				
Parity							
0-2	208(74.3)	200(96.2)	8(3.8)				
3-4	52(18.5)	52(100.0)	0(0.0)	2.85	2		0.24
≥ 5	20(7.1)	20(100.0)	0(0.0)				
Marital status							
Married	260(92.9)	255(98.0)	5(2.0)				
Single	7(2.5)	6(85.7)	1(24.3)	11.46	2		0.00*
Widow	13(4.6)	11(91.7)	2(8.3)				
Educational level							
No formal /primary	15(5.7)	13(86.7)	2(13.3)				
Secondary	207(73.9)	201(97.2)	6(2.8)	7.64	2		0.02*
Tertiary	58(20.7)	58(100.0)	0(0.0)				
Religion							
Catholic	176(62.9)	176(100.0)	0(0.0)				
Pentecostal	79(28.2)	79(100.0)	0(0.0)	84	2		0.00*
Anglican	25(8.9)	17(68.0)	8(32.0)				
Occupation							
Trading	140(50.0)	134(95.7)	6(4.3)				
Public service	31(11.01)	31(100.0)	0(0.0)				
Artisan	63(22.5)	62(98.4)	1(1.6)	3.07	4		0.55
Student	21(7.5)	21(100)	0(00)				
House wife	25(8.9)	24(96)	1(4)				
Year of diagnosis							
< 2yrs	88(31.4)	88(100.0)	0(0.0)				
2-5 yrs	169(60.4)	161(95.2)	8(4.8)	5.51	2		0.06
≥6 yrs	25(8.2)	25(100.0)	0(0.0)				
Counseling on disclosure							
Yes	261(93.2)	254(97.3)	7(2.7)	0.00		2.02	0.43
No	19(6.8)	18(94.7)	1(5.3)				
Membership of support group							
Yes	152(54.3)	152(100.0)	0(0.0)	7.66			0.00*
No	128(45.7)	120(93.7)	8(6.3)				
Awareness of partner's HIV status							
Yes	256(91.4)	248(96.9)	8(3.1)				
No	24(8.6)	24(100)	0(0.0)	2.3			0.91

*Significant

She may resort to breastfeeding when the mother is around , only to revert to breast milk substitutes, when convenient in the erroneous understanding that the less the breast milk the baby gets, the less the risk of transmission. The result will be mix feeding which carries the greatest risk for HIV transmission to the baby. Therefore, every pregnant woman enrolled into the PMTCT programme is encouraged to disclose her serostatus not only to her partner/husband, but also to her mother. This is especially important for those who

Table 2. The pattern of serostatus disclosure among the respondents.(n=272)

Person	Frequency	%
Husband/partner	242	90.0
Priest/pastor	64	23.5
Close family member	31	11.4
Close friends	10	3.7

choose exclusive breast milk substitute as the infant feeding option. Few disclosed their HIV status to their close friends for social and psychological support also.

The identified reasons for nondisclosure of serostatus include fear of stigmatization, divorce/separation, abandonment and violent reactions from the partners (Niccolai et al, 1999; Gielen et al., 2000; Antelman et al., 2001). But the only reason found from this study is fear of divorce. However, it is widely documented that partner's reaction to HIV status disclosure is mostly positive (Ezegwui et al., 2009; Medley et al., 2004). In Jos, northern Nigeria, Sagay et al (2006) reported that 86.9% of the partners were supportive while only 1% was violent. Partner reaction from our study was positive and supportive in all the cases. This finding represents an added incentive to strong counseling of all PMTCT enrollees on the need for serostatus disclosure.

From this study, being single was associated with more likelihood of non disclosure of serostatus. This has been observed previously among south African women (Makin et al., 2008). The married women may feel more confident than the single mothers who may not be in a stable relationship and hence very suspicious of their partners reactions. Therefore, single mothers enrolled into the PMTCT programme need to be intensively counseled on the need for serostatus disclosure.

Low level of education was also significantly associated with more likelihood of non disclosure. Low maternal education had been previously associated with lower levels of adherence to antiretroviral therapy and clinic attendance (Sarna et al., 2008; Katzenstein et al., 2003). This, once again highlights the contribution of low level of education to reproductive ill health within the sub-Saharan Africa. Women with low education are unlikely to be engaged in high profile jobs and therefore very likely to be economically dependent on their partners. Economic dependence had been reported as an independent predictor of non disclosure of HIV serostatus (Antelman et al., 2001), and adherence to ART (Sarna et al., 2008).

The other factors that significantly increased the likelihood of non disclosure were the Anglican Christian denomination and non membership of support groups. Support groups offer services to the members ranging from prevention strategies, positive living, and access to treatment and monitoring. There are many issues confronting people living with HIV/AIDS such as stigma, medication compliance, social interactions and coping with a chronic illness. The support groups address these concerns and offer emotional support that comes from group interactions. Therefore, PMTCT enrollees should be encouraged to belong to the HIV Support Groups.

Conclusion

The high rates of serostatus disclosure, and husband's support found in this study are encouraging and should act as incentives to sustain serostatus disclosure counseling within the PMTCT programme. Since fear of divorce is the only identified barrier to disclosure, we recommend that counseling for serostatus disclosure among HIV positive pregnant women in our environment should specifically address this issue.

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