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HOW ACCEPTABLE ARE THE PREVENTION OF MOTHER TO CHILD TRANSMISSION (PMTCT) OF HIV SERVICES AMONG PREGNANT WOMEN IN A SECONDARY HEALTH FACILITY IN IBADAN, NIGERIA?

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ABSTRACT

***Background*: Prevention of mother to child transmission of HIV (PMTCT) programme was designed to reduce mother to child transmission (MTCT) of HIV and it has been shown to be effective. However, the uptake of the services is still very low in Nigeria.**

***Objective*: This study was designed to determine how acceptable the different services of PMTCT are to pregnant women in Ibadan, Nigeria.**

***Method*: Systematic random sampling was used to recruit 500 pregnant women attending antenatal clinic in a secondary health facility. Questionnaires were used to obtain data regarding socio-demographic characteristics, knowledge about MTCT of HIV and prevention, the awareness and attitude towards infant feeding options for HIV positive mothers. Data were analysed using student's t test and Chi-square test with p set at 0.05.**

***Results:* Mean age of respondents was 27.4±6.1years. Most known routes of MTCT of HIV were during pregnancy (86.0%) and from breastfeeding (86.0%). More than 80% knew that having good antenatal care, appropriate supervised delivery, taking antiretroviral drugs and not breast feeding a baby are ways of PMTCT. About two thirds had a positive attitude towards HIV testing and counselling (HTC). Only 18.4% were aware of the exclusive breast feeding option for feeding infants of HIV positive mothers while 52.2% would not comply if asked not to breast feed. Women aged 35 years and above had better attitude towards non breast feeding.**

***Conclusion*: Intensified health education on the importance of HTC and promotion of exclusive breast feeding for infants of HIV positive mothers is recommended.**

INTRODUCTION

The Prevention of Mother to Child Transmission of HIV (PMTCT) programme which was started in 2001 by the World Health Organization (WHO) aimed to reduce the spread of HIV from mother to child, as it is known that more than 90% of paediatric HIV infection is from mother to child transmission of the virus.[1] The programme comprises of interventions which include comprehensive antenatal care aid safer delivery practices, HIV testing and counselling (HTC) (which is conducted in antenatal and labour ward settings), use of antiretroviral drugs(ARV) infant feeding, counselling and support.[2]

More than 60% of the global burden of paediatric HIV is found in sub-Sahara Africa which has just 13% of the world's population.[3] In Africa, some factors which contribute to the high burden of paediatric HIV infection include the high rate of maternal HIV infection, high birth rates, lack of access to currently available and feasible interventions, and the widespread practice of prolonged breastfeeding.[1] The transmission risk for a child born to an HIV infected mother in an African setting without intervention for prevention of mother to child transmission is about 25-45% during pregnancy, delivery and breastfeeding[2] compared to less than 2% in developed countries where necessary interventions are readily available.[1] In the absence of breastfeeding, transplacental (intrauterine) infection accounts for 25-40% risk and peripartal infection for 60-70% risk of vertical infection of HIV.[3] Breastfeeding alone carries 8-25% risk of vertical transmission in developing countries.

Nigeria has the highest paediatric HIV burden worldwide.[4] There were 56,681 HIV positive births in the country in 2009 contributing 15.3% of the 370,000 global new paediatric HIV infections for that year.[5] PMTCT started in Nigeria in July 2002 with the goals of providing effective PMTCT services for women of reproductive age in selected health facilities. Efforts have been made to scale up these services over the years but these efforts have to be greatly intensified as indicators from the 2008 National Demographic Health Survey [6] still showed poor utilisation of PMTCT services among Nigerian pregnant women even when they were made available.[6] Most pregnant women still

do not have supervised pregnancies and a lot of deliveries take place outside health facilities.[6] Studies have shown that Nigerian women are willing to undergo HIV Testing and Counselling (HTC) especially if it will help to protect their unborn baby from getting HIV infection.[7,8] HTC is the entry point to the services of PMTCT as the HIV positive mothers are given the appropriate care they required to protect their unborn child and have better quality of life while the HIV negative ones are taught how to stay negative.

The new national guideline on PMTCT now recommends exclusive breastfeeding for six months for infants of HIV positive mothers while the baby or mother continue to use ARV.[9] The baby's chance of survival is increased because of good nutrition and other protective factors from the mother who usually is neither able to afford formula nor meet the demands of ensuring its safe preparation. Breastfeeding is a culturally acceptable way of feeding infants in most African countries including Nigeria. The new recommendation which favours breast feeding should remove the burden of fear of stigmatisation from HIV positive mothers as the formula feeding option has raised suspicion of their being HIV positive in the past.[10] In 2011 in Nigeria, it was estimated that only 17.1% of HIV infected pregnant women received ARV.[5] Even though this represented a 45% increase from the proportion of pregnant women who received ARV for prophylaxis for mother to child transmission (MTCT) of HIV in 2010, it is still a far cry from the universal access of 80% that is being advocated as a step towards elimination of MTCT of HIV.[11]

Knowledge and attitude about health services are basic factors which are important determinants of the acceptability of such services.[12] Therefore an insight into these factors will help in assessing acceptability of PMTCT services. There are obviously various factors affecting the uptake of PMTCT services by pregnant women which need to be explored. This study was carried out to determine how acceptable the different services of the PMTCT of HIV programme are to the pregnant women utilising them as this can determine the level of uptake of these services.

MATERIALS AND METHODS

A descriptive cross sectional study was carried out at Adeoyo Maternity Hospital, Ibadan among the pregnant women attending the antenatal clinic. The city of Ibadan is the third largest city in Nigeria but the largest in terms of sheer landmass. The primary inhabitants of the city are the Yoruba-speaking people. Adeoyo Maternity Hospital is a secondary health facility under the administration of the Oyo state Hospital Management Board. It provides obstetrics and gynaecologic services with the antenatal clinic being accessed by more than 2000 pregnant women monthly. Using the formula for calculating sample size for cross sectional study, 500 respondents were selected from about 2000 pregnant women seen in the antenatal clinic in a month using systematic random sampling with a sampling interval of 4. Interviewer-administered questionnaires were used to obtain information regarding the women's socio-demographic characteristics, knowledge on mother to child transmission of HIV and its modes of prevention, acceptability of the different services of PMTCT, awareness, attitudes and acceptability of the infant feeding options for HIV positive mothers. Pretesting of the questionnaire was conducted among pregnant women attending ANC at the University College Hospital, Ibadan.

Data were collected by research assistants who were previously trained on how to administer the questionnaire. Only women who have had at least one previous antenatal visit were interviewed and this was done while they were waiting to be seen in the clinic. Data were collected until sample size was completed and analysis was done using SPSS. Frequency distribution was generated for all categorical variables and checked for errors. Knowledge scores were assigned such that each correct knowledge was scored as '1' and each incorrect ones scored as zero. Attitudinal scores were assigned in a similar manner. Mean scores were then generated and scores below the mean were classified as poor and scores at the mean and above were classified as good. Means were compared using student's t test. Categorical variables were compared using Chi-square test and Fisher's exact test was used when any cell had a value less than five. Student's t test was used to compare the relationship between HIV status and attitude to non-breast feeding, HTC and PMTCT services. The level of significance was set as $p<0.05$.

RESULTS

The socio-demographic characteristics of the respondents are as shown in Table 1. Most of the respondents 430 (86.0%) were aware of the transmission of HIV from mother to child in pregnancy and the same number knew about transmission through breastfeeding. Knowledge of transmission during delivery was reported by 478 (85.6%) of them.

The different ways of preventing mother to child transmission of HIV known to the respondents is shown in Table 2. Even though 92.8% of the pregnant women agreed that HIV positive mothers should be given drugs to prevent mother to child transmission

Table 1: Socio-demographic characteristics of the study participants

Characteristics	No	%
Age (years)		
15-24	168	33.6
25-34	260	52.0
≥ 35	72	14.4
Marital status		
Single	8	1.6
Cohabiting	55	11.0
Married	434	86.8
Separated	3	0.6
Educational qualification		
No formal education	3	0.6
Primary school	101	20.2
Secondary school	258	51.6
Post- secondary school	67	13.4

of HIV, the use of ARV was known by 435(87.0%) as a way of preventing MTCT of HIV. Almost all (96.8%) of the respondents have had HIV testing in the present pregnancy as part of the HTC service rendered in the hospital and 2.8% of them were HIV positive. About 90% of them had disclosed their results to their husbands while 82.6% required their husband's permission before doing the screening. Majority (92.4%) reported that they will readily undergo HTC if the service is readily available while 94.6% will be interested in the result of the screening. Slightly more than two thirds (72.0%) of the pregnant women had positive attitude towards HTC. A significantly higher proportion of those who had a history of multiple sexual partners (46.6%, p = 0.00) compared with those with single sexual partners and those in a stable relationship with their partners (97.8%, p = 0.02) compared with the ones in unstable relationships had positive attitude towards HTC.

Table 2: Different ways of prevention of mother to child transmission known to pregnant women attending ante-natal clinic at Adeoyo Maternity Hospital, Ibadan.

Prevention ways	No	%
Attending ANC[1] in hospital	441	88.2
Having supervised delivery	435	87.0
Taking antiretroviral drugs	435	87.0
Not breastfeeding the baby	404	80.8

[1] *ANC: ante-natal care*

Regarding the recommended feeding option for HIV positive mothers, 340(68.0%) were aware of the option of formula feeding without breastfeeding but only 92(18.4%) of the respondents were aware of the option of exclusive breastfeeding. Interestingly 15(3.0%) of all the respondents were not aware that precautions had to be taken if the mother chose to breastfeed while 53(10.6%) were ignorant of how an infant of a HIV positive mother should be fed. In terms of anticipated reactions if they were asked not to breastfeed, 303(60.6%) reported that they would be unhappy, while 299(59.8%) felt they would be depressed. About half, 261(52.2%) stated that they would not follow the instruction but 95(19%) were not sure of how they would react.

Table 3: Comparison of attitude towards PMTCT services among pregnant women in Adeoyo Maternity Hospital using HIV status

	HIV positive	HIV negative	t value	p value
Attitude to non-breastfeeding	3.0	5.10	6.86	0.009
HTC	5.93	6.71	10.22	0.001
PMTCT services generally	7.57	7.83	0.27	0.604

In response to the reactions of others such as family members and neighbours to a non breast feeding mother, majority, 378(75.6%) said such a mother would be considered HIV positive while 213(42.6%) believed she would be considered mentally deranged and 200(46.0%) thought she would be seen as being irresponsible. One hundred and eighty nine (39.8%) felt people would think such a mother is trying to display a higher social status. In terms of respondents' concern if they were asked not to breastfeed their baby, 311(62.2%) of them felt the baby would not be healthy. Two hundred and fifty seven (51.1%) of them expressed concern that they would not feel like a mother while 227(45.4%) were bothered about what people would say. For 137(27.4%) of the respondents, the high cost of formula was the major concern associated with not breastfeeding. Table 3 showed the relationship between the women's HIV status and their attitude towards non breastfeeding, HTC and PMTCT services. Women aged 35 years and above significantly

had better attitude towards non breastfeeding (mean attitudinal score of 5.58 ± 2.98) while those aged 25-34 years had the lowest score, 4.71 (±3.01).

DISCUSSION

A proportion of women in this study group had high knowledge about different routes of mother to child transmission of HIV compared to findings in similar studies in other parts of the country[7,8,13] even though the socio-demographic characteristics of the present study group is comparable with those found in these other studies. The explanation for this could be because of the urban location of the study which provided them the opportunity of better access to health information. Furthermore, their living in Ibadan where one of the first set of PMTCT sites in Nigeria (University College Hospital, Ibadan) is located could have impacted positively on their knowledge of HIV in pregnancy.[1] This could also explain the high level of knowledge of specific aspects of the of PMTCT services compared with what had been reported in earlier studies. This high level of knowledge is commendable and it implies that the counselling that these pregnant women had about PMTCT of HIV was well understood and should tremendously have positive impact in reducing the rate of mother to child transmission of HIV.

The attitude towards HTC was also quite positive even though this could be improved upon through health education to recipients. The positive attitude towards HTC reported by those with multiple sexual partners could be due to their perceived high risk of contracting HIV. Respondents who had only one sexual partner are however also at risk, however these respondents did not think so. The low personal risk perception has been identified as one of the key drivers of HIV epidemic in Nigeria.[14] Low risk heterosexual sex also contributes significantly to 80% of HIV cases in Nigeria because the use of precautionary measures is usually low.[14] This situation points to the fact that more public enlightenment needs to be done in this regard to improve uptake of HTC. The pregnant women in stable relationship with their partners are likely to have better commitment to the health of their unborn babies since they have a partner to support them and this could explain their better attitude to HTC compared with the single or separated ones.

The high rate of disclosure of screening result reported in this study is similar to an earlier report from a study conducted in Kenya.[15] This may be as a result of the recognition that their husbands' knowledge of the screening result could facilitate access to required intervention should the need arise in future. Disclosure by HIV positive women to male partners during the antenatal period has been associated with improved adherence to PMTCT regimen.[15] The typical African culture where the woman is dependent on her husband and requires his approval before some health services could be sought was demonstrated in this study as majority of the study participants required their husbands' permission before participating in HTC. Bajunirwe and Muzoora reported in their study that the strongest predictor for whether a woman had the intention of testing for HIV was the perception that the husband would approve of her decision to do the test.[16]This underscores the importance of couple counselling and community based campaigns which have recorded some success in some African countries.[15]

In terms of infant feeding, the option most readily known by the respondents was formula feeding while only a few were aware of the option of exclusive breastfeeding for infants of mothers with HIV. This is rather disturbing and may reflect the undue emphasis by the counsellors on this method of feeding. The information on different options of feeding is to be given to HIV positive mothers, with the risks and benefits of each and the women are expected to make an informed decision.[17] The current guideline on PMTCT recommends exclusive breastfeeding for the first 6 months with the introduction of complementary feeds thereafter and cessation of breast feeding at one year of age (either the mother or infant will be on antiretroviral drugs).[17,18] This is due to the need to balance HIV prevention with protection from other causes of child mortality like malnutrition, pneumonia and diarrhoea. Breastfeeding is a culturally acceptable way of feeding infants in most African countries including Nigeria. A lot of importance is attached to it so it is not surprising that most of the respondents expressed reservations about the non-breast feeding option which unfortunately was the most known way of feeding for infants of HIV positive mothers among these pregnant women. The finding that more than half of the women would be non-compliant if asked not to breast feed probably explains the high rate of mixed feeding seen when the initial practice was to formula feed infants of HIV positive mothers with free supplies of formula.[19,20] This is contrary to what was found among pregnant women in China where less than 10% of them are willing to breastfeed their babies if found to be HIV positive.[21] This finding is the reason for the WHO recommendation that the national guidelines on feeding of infants of HIV positive mothers should be based on the cultural perspective of the populace.[17]

The impression that a non-breast feeding mother is HIV positive reported by majority of the respondents

could worsen the stigmatisation associated with HIV in non-breast feeding HIV positive mothers which may not allow them to keep to the feeding method of their choice. Such a mother is also culturally seen as irresponsible and could be easily pressured to start mix feeding due to these psychological stresses. In this study, the older women had a better attitude towards the non-breast feeding option. This could be as a result of their ability to make decisions about the health of their children without interference from others which may not be the situation for younger women. In the African setting, the older women are usually responsible for making decisions and taking actions on issues that have to do with the health of younger women and children.[22,23] In these situations the strong patriarchal influence usually seen in African family settings are suspended when many decisions are to be taken regarding the health of pregnant women and children including newborns. Inclusion of these older women in the implementation of PMTCT programme may enhance compliance but the issues of confidentiality and stigmatisation have to be considered including the consent of the pregnant women involved. Only one health facility in an urban area was used in this study and this can affect the generalisation of the findings. Conducting a similar study in a rural setting may yield different results. A multi-centre study is also likely to give more encompassing result. Conducting a household survey will be able to include those who stay away from the health facility due to sociocultural barriers.

CONCLUSION

Though the level of awareness of the PMTCT services among the pregnant women in this study group is higher than that found in similar studies in Nigeria, more health education is required in the community to improve the awareness about low risk heterosexual sex being a risk factor for HIV in order to improve HTC uptake and control HIV. Couple counselling should be encouraged to improve the uptake of HTC. The non-breastfeeding option of feeding for infants of HIV positive mothers is not acceptable to majority of the pregnant women studied so exclusive breastfeeding should be promoted among HIV positive mothers to ensure survival of their infants and reduce MTCT of HIV.

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