

Research Article

Barriers, Motivations to Utilization of Prevention of Mother to Child Transmission of HIV among Women Attending Antenatal Clinic at a Teaching Hospital in Abuja, Nigeria

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Received: August 5, 2021

Accepted: September 8, 2021

Published: September 20, 2021

Abstract: Introduction: Effective utilization of prevention of mother to child transmission (PMTCT) services is key to significantly reducing the rate of vertical transmission of human immunodeficiency virus (HIV). This study assessed the knowledge, attitude of women and barriers and motivations to uptake of (PMTCT) services by women attending the antenatal clinic of University of Abuja Teaching Hospital.

Methodology: This was a descriptive cross-sectional study in which 216 pregnant women attending the antenatal clinic of a tertiary institution were selected using systematic sampling technique and interviewed using self-administered semi-structured questionnaires. The Statistical Package for Social Sciences (SPSS) software was used for data analysis. Chi square test was used for categorical variables, while student t-test was used for quantitative data, and p-values of $< \text{or} = 0.05$ were considered as statistically significant.

Results: A total of 92 participants (42.6%) had good knowledge of PMTCT while 124 (57.4%) had poor knowledge. About 202 (93.5%) had a positive attitude towards PMTCT interventions. The strongest barrier to uptake of PMTCT services was poor knowledge of HIV transmission (79.2%) followed by stigma (79.2%). The desire to protect the baby was the greatest motivation 212 (98.1%), for acceptance of PMTCT services, followed by increased awareness about HIV infection with (204 (94.4%).

Conclusion: Although knowledge levels were generally low, the overall attitude of the women was strongly positive. For effective scale up of PMTCT services in this setting, dissemination of information on PMTCT that is scientifically sound and culturally acceptable is encouraged. The barriers to the uptake of PMTCT services should be eliminated while motivations should be strengthened.

Keywords: Knowledge, Attitude, Barriers, Motivations, Utilization, HIV/AIDS, Prevention of Mother-to-Child Transmission.

Introduction

HIV is the Human Immunodeficiency Virus; the virus that causes AIDS, “acquired immunodeficiency syndrome” which has become one of the world’s most serious public health and development challenge. Since the first cases were reported in 1981, nearly 30 million people had died of AIDS worldwide and another 34 million are currently living with HIV/AIDS [1, 2]. While new cases have been reported in all regions of the world, approximately two-thirds are in sub-Saharan Africa, with 43% of new cases in Eastern and Southern Africa. Data shows that HIV primarily affects individuals in their most productive years; more than half of new infections are among those under age 35 years [3].

HIV is transmitted from an infected person to an uninfected person by two major modes, namely horizontal transmission and vertical transmission (or mother to child transmission (MTCT)) [4]. Horizontal transmission refers to transmission between two individuals who exist separately. It covers the commonly known routes of transmission in the adult such as through unprotected sex with an infected person, transfusion with infected blood and blood products, sharing of contaminated needles and other contaminated instruments, among others. This mode accounts for 90% of all HIV infections and is the sole mode of infection in adults. Vertical (or mother to child) transmission refers to the situation where an infant of an HIV-infected mother acquires the HIV infection from the mother at one or more of the following stages including transplacentally during pregnancy, perinatally during the process of labor and delivery, and postnatally during breastfeeding [4].

Prevention of mother to child transmission (PMTCT) of HIV is a global interventional program initiated by the United Nations to protect the children of the world from the scourge of the HIV pandemic [4].

In addition to setting the goal of PMTCT, the UN in 2001 also formulated four strategies for PMTCT, as follows: prevention of primary infection in men and women of reproductive age. Prevention of unintended pregnancy in HIV-infected women and prevention of MTCT of HIV during pregnancy, delivery and breastfeeding [4]. The rate of MTCT is dependent on factors which include viral load, mode of delivery, prolonged rupture of membranes, prematurity and breastfeeding [5, 6].

With a population of over 140million people, the HIV prevalence rate among low-risk adults in Nigeria is 3.9% in 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 of prevalence by different states across the country [6]. State HIV prevalence ranged from 1% in Kebbi State, North West of the country to 12.7% in Benue State, North central Nigeria. Presently Nigeria contributes an estimated 30% of the global burden of maternal to child transmission of HIV [7].

The Federal Capital Territory (FCT) where our study was conducted ranked 5th among the 36 states and Federal Capital Territory in Nigeria with a prevalence of 8.7%. Urban prevalence is 8.6% while the rural is 8.2% among pregnant women 15 to 49 years [7].

The HIV epidemic has had a devastating effect on children and young people under 15 years of age, with an estimated 2 million people infected with HIV, and 370,000 new infections in 2007. In sub-Saharan Africa, approximately 12 million children have been orphaned through HIV [7].

A total of 90% of HIV-infected children live in sub-Saharan Africa having acquired HIV through PMTCT during pregnancy, delivery or through breastfeeding, although transmission during early pregnancy is rare. Children who are HIV exposed, but not themselves infected, are at an increased risk of morbidity and mortality, particularly if they have lost their mothers [7].

The broad objective of this study is to assess utilization of PMTCT by pregnant women attending antenatal clinic in University of Abuja Teaching Hospital. To assess the knowledge of women attending antenatal clinic on maternal to child transmission of HIV. To determine the attitude of women attending antenatal clinic towards PMTCT interventions and to identify barriers and motivations to uptake of PMTCT Services.

Materials and Method

Study Population

Women attending the antenatal clinic of University of Abuja Teaching Hospital (UATH), Gwagwalada, Abuja, Nigeria.

Eligibility criteria for the selection of participants are the following:

Women who were pregnant and attending the antenatal clinic at UATH

Exclusion criteria

Women who were critically ill and therefore cannot participate in the survey.

Study Area

The study area was the University of Abuja Teaching Hospital located in Gwagwalada Area Council, one of the six (6) Area Councils in the Federal Capital Territory, Abuja in Nigeria with an estimated population of 157,770 based on the 2006 census and a land area of 1069.569km² [8]. The University of Abuja Teaching Hospital was completed in 1990 and commissioned on 5th May, 1992 by the then Head of State, General Ibrahim Badamasi Babangida. It is a 300-bed capacity facility and one of three tertiary hospitals in Abuja, the others being National Hospital and Federal Medical Centre Jabi [9]. The antenatal clinic of the hospital runs every working day of the week. The attendance per day is about 46–98 women [10].

Sample Size

The sample size was calculated using the Leslie-Kish formula; [11]

$$N = Z\alpha^2 pq / d^2$$

where N is the desired sample size.

Sampling Technique

The systematic sampling technique was used. In this method every eligible second woman attending the antenatal clinic of University of Abuja Teaching Hospital was recruited. That is, the sampling interval was 2 and sampling fraction was ½.

Research Instrument

Quantitative data was collected via a survey through the use of a structured questionnaire developed by the researchers. The questionnaire was in English and included five sections used to collect demographic data of the respondents, knowledge of maternal to child transmission of HIV, attitude towards PMTCT services and barriers and motivation to the utilization of PMTCT services.

Data Collection

The questionnaires were self-administered after written informed consent was obtained. Data was collected by the researchers over a period of 3 weeks.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 23 software was used for the data analysis. The total percentage score for correctly answered knowledge questions was calculated. Proportion of participants that scored 50% and above were considered to have good knowledge while those that scored below 50% were considered to have poor knowledge.

For attitude questions, strongly agree and agree were classified as positive responses while indifferent, disagree and strongly disagree were considered negative responses. Overall, proportions of those with 50% positive responses and above were considered to have a positive attitude while those who scored below 50% were considered to have a negative attitude. Concerning the barriers and motivations we used a scale of 1 to 4 and respondents who had a score of 3 or 4 were considered strong while scores of 1 and 2 were considered weak. The study findings were presented in the form of tables. Chi square test was used for categorical data, while student t-test was used for quantitative data with p-values of 0.05 and below considered as statistically significant.

Results

Socio-demographic Characteristics

A total of 216 women participated in the study. The age range was 16 to 42 years old, with a mean of 28.62 years and the majority 134 (62%) were ≤ 30 years old. Approximately 211 (97.7%) of the respondents were married, 2 (0.9%) single, 2 (0.9%) separated and 1 (0.5%) cohabiting. On the educational status, 150 (69.4%) had attained tertiary level of education, 50 (23.1%) had attained secondary school education, 14 (6.5%) had only primary school education while 2 (0.9%) had no formal education as shown table 1 below. Those with a parity of one were 66 (30.6%) and they formed the largest group.

Table 1. Socio-Demographic Characteristics of the respondents

Variables	Total (N=216 (%))
Age (Years)	
10-19	12 (5.6)
20-29	104 (48.1)
30-39	97 (44.9)
40-49	3 (1.4)
Marital Status	
Single	2 (0.9)
Married	211 (97.7)
Separated	2 (0.9)
Cohabiting	1 (0.5)
Educational Level	
No Formal Education	2 (0.9)
Primary Education	14 (6.5)
Secondary Education	50 (23.1)
Tertiary Education	150 (69.4)
Occupation	
Unemployed	31 (14.4)
Employed	65 (30.1)
Housewife	81 (37.5)
Business	81 (37.5)
Parity	
0	61 (28.2)
1	66 (30.6)
2	39 (18.1)
3	26 (12.0)
4	17 (3.2)
= or > 5	7 (3.2)

Knowledge of PMTCT of HIV

About 92 participants (42.6%) who scored 50% and above were considered to have good knowledge while 124 (57.4%) scored below 50% and considered as having poor knowledge.

Table 2. Knowledge of MTCT and PMTCT of HIV

Good knowledge n (%)	Poor knowledge n (%)	Total n (%)	t-test	p-value
92 (42.6%)	124 (57.4)	216 (100)	46.676	0.031

Attitude towards PMTCT

About 14 (6.5%) participants who scored below 50% were considered to have a negative attitude while 202 (93.5%) who scored 50% and above were considered to have positive attitude.

Table 3. Attitude towards PMTCT

Positive attitude n (%)	Negative attitude n (%)	Total n (%)	Statistic χ^2	p-value
202 (93.5)	14 (6.5)	216 (100)	163.63	0.031

Barriers to uptake of PMTCT services

The strongest barrier to uptake of PMTCT services was poor knowledge of HIV transmission (172 (79.2%)) then stigma (171 (79.2%)), inadequate HIV counselling and testing (HCT) and PMTCT centers (169 (78.2%)) and poor awareness of PMTCT (169 (78.2%)). Table 4 below summarizes the results on the various barriers.

Table 4. Barriers to uptake of PMTCT services

Barriers	Strong n (%)	Weak n (%)
Poor knowledge of HIV transmission	172 (79.2)	44 (20.4)
Unwillingness to go for testing	165 (76.4)	51 (23.6)
Poor condom use knowledge	134 (62.0)	82 (38.0)
Poor awareness of PMTCT	169 (78.2)	47 (21.8)
Stigma	171 (79.2)	45 (20.8)
Lack of confidentiality of HIV test results	147 (68.1)	69 (31.9)
Limited PMTCT health education programmes	161 (74.5)	55 (25.5)
Inadequate family planning services	129 (59.7)	87 (40.3)
Lack of support counseling	156 (72.2)	60 (27.8)
Inadequate VCT and PMTCT centers	169 (78.2)	47 (21.8)
Long distance to health facility	139 (64.4)	77 (35.6)
Long waiting time	134 (63.9)	82 (38.0)
Lack of male support and involvement	138 (63.9)	78 (36.1)
Negative attitudes of hospital staff	135 (62.5)	81 (37.5)

Motivations to uptake of PMTCT services

The desire to protect the baby, 212 (98.1%) was the greatest motivation for the women to accept PMTCT services followed by increased awareness about HIV (204 (94.4%)), availability of the HIV drugs (203 (94.0%)), and desire to protect family (203 (94.0%)). Table 5 displays the results.

Table 5. Motivating factors for uptake of PMTCT services

Motivations	Strong n (%)	Weak n (%)
My desire to protect baby	212 (98.1)	4 (1.9)
My desire to protect family	203 (94.0)	13 (6.0)
Partner support and understanding	195 (90.3)	21 (9.7)
Trust in hospital staff	176 (81.5)	37 (17.1)
Availability of support services	198 (91.7)	18 (8.3)
Increased awareness about HIV	204 (94.4)	12 (5.6)
Adequate knowledge of PMTCT	201 (93.1)	15 (6.9)
Availability of HIV drugs	203 (94.0)	13 (6.0)

Discussion**Knowledge of PMTCT of HIV/Risk factors**

Our study revealed poor knowledge of PMCT and this compares favourably with a study conducted in Ethiopia by Falnes in which 70.5% of the rural antenatal attendees had poor knowledge. However, in the same study only 35.2% of the urban attendees had poor knowledge [12]. In another study by Luba the overall knowledge of Ethiopian women about PMTCT was very low (34.9%) [13]. Abteu et al. in a study amongst women in an antenatal clinic revealed that 57.5% of them had good knowledge about the three critical modes of HIV transmission from mother to child, but only 17.4%

knew the possible prevention methods [14]. The low level of knowledge could be a factor contributing to the poor health seeking behaviour leading to increased incidence of HIV infections. In Nigeria, Moses stated that though the level of awareness of HIV/AIDS among women attending our antenatal clinic was high, the level of knowledge about mother-to-child transmission was low [15]. The findings of the study are in contrast to that of a study in Southwest Nigeria by Olugbenga in which the knowledge about PMTCT of HIV was high, about 91.4% level of knowledge [16].

Attitude towards PMTCT

Although knowledge levels were generally low, the overall attitude of respondents was good as 93.5% of the women had positive attitude. This also compares favourably to a study in India by Lucksom which showed that majority of the women had a positive attitude toward people infected with HIV as 80% were willing to take care of the infected family member and 84% of women consented that all pregnant women should be tested for HIV [17]. This is also similar to a study in Southern Ethiopia by Abajobir where 97.4% had good attitude toward PMTCT of HIV [18]. However, this is in contrast to a study in South West Nigeria by Olugbenga where many of the respondents, 275 (71.27%), had poor attitude towards PMTCT of HIV, while only 111 (28.73%) had good attitude despite good knowledge recorded [16].

Barriers to uptake of PMTCT services

From our study, the strongest barrier to uptake of PMTCT services was poor knowledge of HIV transmission, followed by stigma, inadequate VCT and PMTCT centers, and poor awareness of PMTCT. Our findings are consistent with results of a systematic review conducted in China that reported lack of knowledge in PMTCT as an important barrier to PMTCT success [19]. In Botswana, Kebaabetswe identified fear of knowing one's own HIV status, stigma, lack of male partners' support and negative attitudes of health workers as barriers to PMTCT [20]. According to Nyasulu in study conducted in Malawi, the main barriers to uptake of the PMTCT services were stigma and discrimination against those with HIV-infection, opposition from male partners commonly leading to divorce, long waiting time at voluntary counseling and testing centers, fear of being bewitched, cost of infant feeds and lack of privacy and confidentiality when a woman joins a PMTCT programme [21]. In Nigeria, Anigilaje in North Central Nigeria reported unawareness about HIV infection as the most common barrier while Hembah-Hilekaan reported the most common barrier to uptake of PMTCT services in the community was fear of stigmatization, followed by non-availability of PMTCT services and understaffing of health care facilities [22, 6].

Motivations to uptake of PMTCT services

We identified the desire to protect the baby as the greatest motivation for women to accept PMTCT services, followed by awareness about HIV and availability of HIV drugs. This is similar to a study in South Africa by Ajewole in which the safety of their babies was reported by most participants to be their motivation for enrolment (71.1%) [23] and compares favorably to another study exploring factors that enhance utilization of and adherence to PMTCT of HIV services in an urban setting in Kenya [24]. This study highlighted supportive counseling, striving for motherhood, maternal attachment and concern for the child's wellbeing, assurance of confidentiality and testimonials of other successful mothers as factors found to influence women's decisions to utilize and adhere to PMTCT services [24]. Iwelunmor, in studying the socio-cultural factors influencing the prevention of mother-to-child transmission of HIV described confidentiality of HIV test results, availability of PMTCT health education programmes, family planning services, support groups and counseling and antiretroviral therapy as motivations to uptake of PMTCT services [25].

Conclusion

The respondents had a good general knowledge and attitude towards PMTCT but poor knowledge of MTCT of HIV. The most common barrier to uptake of PMTCT services was inadequate testing and PMTCT centers followed by poor awareness of PMTCT while the desire to protect the baby was the greatest motivation for women to accept PMTCT services.

Recommendations

There is need for increased efforts towards educating women of reproductive age group on HIV and the prevention of mother to child transmission and the elimination of major barriers to uptake of PMCT while motivations should be strengthened. For effective scale up of PMTCT services in this setting, dissemination of information on PMTCT that is scientifically sound and culturally acceptable is encouraged.

Conflict of interest: The authors declare that they have no competing interest.

References

1. UNAIDS. World AIDS Day Report. 2011. Available from: <http://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2011/november/20111121wad2011report/>
2. UNAIDS. Report on the Global AIDS Epidemic. 2010. Available from: http://www.unaids.org/globalreport/global_report.htm
3. Kaiser Family Foundation. U.S. Global health policy: The global HIV/AIDS epidemic. 2009. Available from: <http://www.kff.org/hivaids/upload/3030-14.pdf>
4. Nkwo PO. Prevention of mother to child transmission of Human Immunodeficiency Virus: The Nigerian perspective. *Ann Med Health Sci Res.* 2012;2(1):56-65.
5. Abiodun O, Sotunsa J, Ani F, Olaleye A, Taiwo A. Elimination of Mother-To-Child Transmission of HIV in Nigeria: The Roles, Preparedness and Determinants of Successful Involvement of Traditional Birth Attendants. *J Aids Clin Res.* 6:481.
6. Hembah-Hilekaan SK, Swende TZ, Bito TT. 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. *Afr J Repr Health.* 2012;16(3):27-34.
7. Federal Ministry of Health, Nigeria, National Guidelines for Prevention of Mother to Child transmission of HIV (November, 2010)
8. UNAIDS 2013 progress report on the Global Plan.pg 62
9. Abuja Yellow pages: the most comprehensive business and government directory. 1996 page 13
10. University of Abuja Teaching Hospital Antenatal Clinic Out Patient Register, Jan to Dec 2017.
11. Mamudu RA. Knowledge Attitude and Practices of Prevention of Mother to Child Transmission of HIV(PMTCT) among women of Child Bearing Age, in Karu Village, Abuja, Nigeria 2014. Pg 12 Available from: <https://scholar.sun.ac.za>
12. Falnes EF, Tylleskär T, de Paoli MM, Manongi R, Engebretsen IM. Mothers' knowledge and utilization of prevention of mother to child transmission services in northern Tanzania. *J Int Aids Soc.* 2010;13(1):1-5.
13. Luba TR, Feng Z, Gebremedhin SA, Erena AN, Nasser AM, Bishwajit G, Tang S. Knowledge about mother-to-child transmission of HIV, its prevention and associated factors among Ethiopian women. *J Glob Health.* 2017;7(2): 020414.
14. Abtew S, Awoke W, Asrat A. Knowledge of pregnant women on mother-to-child transmission of HIV, its prevention, and associated factors in Assosa town, Northwest Ethiopia. *HIV/AIDS (Auckland, NZ).* 2016;8:101-107.
15. Moses AE, Chama C, Udo SM, Omotora BA. Knowledge, attitude and practice of ante-natal attendees toward prevention of mother to child transmission (PMTCT) of HIV infection in a tertiary health facility, Northeast-Nigeria. *East Afr J Pub Health.* 2009;6(2):128-35.

16. Olugbenga-Bello AI, Adebimpe WO, Osundina FF, Abdulsalam ST. Perception on prevention of mother-to-child-transmission (PMTCT) of HIV among women of reproductive age group in Osogbo, Southwestern Nigeria. *Int J Women's Health*. 2013;5:399.
17. Lucksom PG, Upadhya R, Kharka L, Dubey S, Choudhary N, Yadav R. KAP Study on HIV/AIDS among antenatal women attending central referral hospital of North East India. *J Obstet Gynecol India*. 2016;66(1):55-9.
18. Abajobir AA, Zeleke AB. Knowledge, attitude, practice and factors associated with prevention of mother-to-child transmission of HIV/AIDS among pregnant mothers attending antenatal clinic in Hawassa referral hospital, South Ethiopia. *J Aids Clin Res*. 2013;4(6):215.
19. Peng Z, Wang S, Xu B, Wang W. Barriers and enablers of the prevention of mother-to-child transmission of HIV/AIDS program in China: a systematic review and policy implications. *Int J Infect Dis*. 2017;55:72-80.
20. Kebaabetswe PM. Barriers to participation in the prevention of mother-to-child HIV transmission program in Gaborone, Botswana a qualitative approach. *AIDS care*. 2007;19(3):355-60.
21. Nyasulu JY, Nyasulu PE. Barriers to the uptake of Prevention of Mother to Child Transmission (PMTCT) services in rural Blantyre and Balaka Districts, Malawi. *J Rural Trop Pub Health*. 2011;10:48-52.
22. Anigilaje EA, Ageda BR, Nweke NO. Barriers to uptake of prevention of mother-to-child transmission of HIV services among mothers of vertically infected HIV-seropositive infants in Makurdi, Nigeria. *Pat Prefer Adher*. 2016;10:57-72.
23. Ajewole OJ, Sparks BL, Omole OB. Uptake and factors that affect enrolment into the prevention of mother-to-child transmission of human immunodeficiency virus programme in rural Limpopo Province. *South Afr Fam Pract*. 2013;55(6):555-60.
24. Murithi LK, Masho SW, Vanderbilt AA. Factors enhancing utilization of and adherence to prevention of mother-to-child transmission (PMTCT) service in an urban setting in Kenya. *AIDS Behav*. 2015;19(4):645-54.
25. Iwelunmor J, Ezeanolue EE, Airhihenbuwa CO, Obiefune MC, Ezeanolue CO, Ogedegbe GG. Socio-cultural factors influencing the prevention of mother-to-child transmission of HIV in Nigeria: a synthesis of the literature. *BMC Pub Health*. 2014;14(1):1-3.

Citation: Joseph OM, Yalma RM. Barriers, Motivations to Utilization of Prevention of Mother to Child Transmission of HIV among Women Attending Antenatal Clinic at a Teaching Hospital in Abuja, Nigeria. *Int J Rec Innov Med Clin Res*. 2021;3(3):48-55.

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