Original Research Article

Factors Associated with Access barriers to Prevention of Mother to Child Transmission (PMTCT) of Human Immune Deficiency Virus Services in Private Hospitals in Enugu State, South East, Nigeria.

ABSTRACT

Aims: This study was to ascertain the barriers in PMTCT Services in private tertiary health facilities in Enugu state, South-east Nigeria

Study design: This was a facility-based analytical cross-sectional study among HIV positive nursing mothers who were accessing PMTCT services.

Place and Duration of study: The study was at Ante natal clinic and post natal Clinics of Annunciation and Mother of Christ health facilities in Enugu state. The study was between February and July 2015.

Methodology: Questionnaires were used. Chi-square test was used for association between socio-demographic variables and experience of any access barrier. Multivariate analysis in form of logistic regression was done to for determinants of experience of any access barrier. Level of significance was determined at a p-value of ≤ 0.05

Results: Majority were aged 30-34 years 144(52.4%), attained secondary education 121(44.0%), were unemployed 108(39.3%), and had 1-2 babies 128(46.5%). The major barriers experienced were; cost of registration/transport 198(72.0%), Stigma and discrimination from friends/neighbours 123(44.7%) and being too busy with household chores 137(49.8%). There were statistically significant association between experience of barriers with educational level ($\chi 2=8.572$, $p=0.036$) and parity ($\chi 2=6.451$, $p=0.040$)

Conclusion: Almost all the study participants in this study experienced a form of barrier with major barriers. Parity and educational level influenced barriers to PMTCT care. There is need for educational empowerment and family planning for the desired goals of PMTCT services to be achieved.

Keywords: Access, Barriers, Private tertiary facilities, Prevention of Mother-to-child transmission

INTRODUCTION

The major routes of transmission of HIV are unsafe sex, contaminated sharp objects like needles, infected blood, and transmission from an infected mother to her baby in utero (prenatal), at birth (natal transmission) or afterwards through breast milk (post natal) [1]. Mother-to-child transmission (MTCT) is when an HIV-infected woman passes the virus to her unborn baby. It remains the major means through which children under the age of 15 years are infected with HIV [2,3].

The majority of MTCT of HIV occur in resource-poor countries, particularly in Africa, where HIV prevalence is high; and fewer than 10% of pregnant women have access to interventions designed for the prevention of mother-to-child transmission (PMTCT) [4.5]. About 400,000 children under 15years became infected with HIV, mainly through mother-to-child transmission and 90% of these MTCT infections occurred in Africa where HIV infection is beginning to reverse decades of steady progress in child survival [6]. The condition is worse in sub-Saharan Africa, where over 90% of the 2.1 million children living with HIV reside [7-9]. One of our best opportunities for progress against AIDS lies in preventing mothers from passing on the HIV virus to their children.

Prevention of mother to Child Transmission of HIV programme is the means of preventing/reducing the rate of transmission of HIV from an infected mother to her fetus or newborn during pregnancy, delivery, or the postpartum period. It involves a four prong approach

which includes: 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; offering care and support to HIV positive women and their families [10]. The most effective means of reducing mother-to-child transmission is to provide suppressive ART to the mother in order to reduce the risk of vertical transmission, sustain the life and health of the mother while the child is growing up [1,11].

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 application of the appropriate interventions as obtained in most developed countries, the rate is reduced to less than 2 per cent [2,10,12-15]. A further 5-20 percent will become infected through breastfeeding [7]. There are approximately 1.4 million pregnant women living with HIV in low and middle income countries out of which only 26% of pregnant women living in these countries received HIV test [16]. Although Anti-Retroviral Therapy (ART) is available in most countries in Sub-Saharan Africa, data indicate that less than 10% of HIV-infected pregnant women in Sub-Saharan Africa have access to PMTCT services [4]. The majority of Nigerians do not know their status and despite numerous statements of political commitment, a well- defined set of interventions and the know-how required to implement them, the vast majority of pregnant women in need of PMTCT services do not receive them [17].

Several factors can increase the likelihood of MTCT such as a high viral load, the time the mother got infected with the virus, or if she was re-infected during pregnancy. However, even with established interventions that can reduce the risk of infection to these babies some HIV infected women do not use these opportunities and such accounts for some draw backs in PMTCT services. High proportion (65%) of deliveries are outside health facilities, attended by

un-skilled personnel (61%) or completely unassisted (20%). This grossly undermines PMTCT as it leads to poor uptake despite availability of these commodities in such areas [17].

The public healthcare facilities at the primary, secondary and tertiary levels in Nigeria are maldistributed politically. They generally lack facilities and personnel most especially at the LGA level and in rural areas [18]. The private sector fills the vacuum and makes most impact in the primary healthcare system. Private health facilities provided in 2009 as many as 100,000 patients with antiretroviral treatment (ART), which is 29 percent of the target of 350,000 and 35 percent of the 288,000 people on ART in Nigeria currently. Their contribution toward voluntary counseling and testing is even more considerable more than the total target for Nigeria [18].

This study was aimed at finding out some causes of the setbacks in PMTCT Services in private tertiary health facilities in Enugu state, South-east Nigeria.

MATERIALS AND METHODS

Study area

The study was in Enugu State, Nigeria. Enugu state is located in the southeast geopolitical zone of Nigeria. Administratively Enugu state is made up of three senatorial zones, there are many government health institutions and privately owned hospitals, pharmacies, laboratories as well as patent medicine shops that serve as important sources of health care delivery. There are approximately 700 private health facilities comprising of non-profit and profit making facilities and faith-based facilities.[89] Comprehensive PMTCT is being offered in 15 out of all health facilities in the state [10 public and 5 private health facilities]. The study was conducted at the selected private health facilities that offer comprehensive PMTCT services in Enugu state. The

private health facilities are Annunciation Specialist Hospital and Mother of Christ specialist hospital.

Study Design.

This was a health facility-based analytical cross-sectional study to ascertain the factors influencing setbacks in PMTCT Services in private tertiary health facilities in Enugu state

Study population

It consisted of HIV positive women receiving care for PMTCT during pregnancy, childbirth and postnatal care. Additionally, women who had babies in the twelve months preceding the study and were still receiving care for PMTCT were included in the study. This is because PMTCT services are provided to mothers until 12 months after delivery, when they are either transferred to adult ART clinic if they do not become pregnant in the period or remain in the PMTCT clinic if they become pregnant.

Sample Size

The sample size was calculated using standard formula for proportions at confidence level of 95%, prevalence of access to PMTCT services in specialist health care facilities in Nigeria of 11% [2] and margin of error of 5%. This gave 165 after adding 10% wrong or incomplete responses, however 275 respondents were studied.

Sampling technique

Two (2) PMTCT health facilities were used for the study. The records of patients who had received PMTCT services in the past twelve months PMTCT services in each of the selected centres were obtained to get the sampling frame. The number of respondents selected from each

facility was determined proportionately based on number of PMTCT patients seen at the centre. From the hospital records of January to December the previous year, the number of patients for PMTCT services was 224 for Annunciation and 202 for Mother of Christ. By proportionate sampling,145 patients for Annunciation and 130 patients for Mother of Christ were studied to make up 275 clients. Respondents that satisfied the inclusion criteria were recruited consecutively at the facilities using pre-determined proportions till the stated number of respondents were gotten.

Data collection tool and methods

Pre-tested, interviewer administered, semi structured questionnaire was used to collect data from participants in selected health facilities. This was verbally translated to the local language (Igbo) for those who could not understand English language very well. Pigeon English was also used for non Igbos who could not appreciate the wordings very well. Four trained research assistants were used.

Data analysis

Data was collected and analyzed using IBM Statistical Packages for Social Sciences (SPSS) version 20. Results were summarized using percentages and presented in tables. Chi-square test was used for association between socio-demographic variables and experience of any access barrier. Multivariate analysis in form of logistic regression was done to for determinants of experience of any access barrier. Level of significance was determined at a p-value of ≤ 0.05

RESULTS

Table 1: Sociodemographic characteristics of respondents

Socio-demographic variables	Frequency (n =275)	Percent
Age		
<25	12	4.4

25-29	88	32.0
30-34	144	52.4
≥35	31	11.3
Mean ± SD	**30.41 ± 3.25.**	
Marital Status		
Single	18	6.5
Married till date	235	85.5
Others	22	8.0
Educational Level		
No formal education	15	5.5
Primary	41	14.9
Secondary	121	44.0
Tertiary	98	35.6
Employment status		
Unemployed	108	39.3
Trader	85	30.9
Artisan	21	7.6
Cittvil / public servant	55	20.0
Farmer	5	1.8
Religion		
Christian	259	94.2
Moslem	16	5.8
Source of income		
Husband	170	61.8
Self	56	20.4
Husband and self	46	16.7
Relatives	3	0.7
Ethnicity		
Igbo	191	69.5
Hausa	19	6.9
Yoruba	19	6.9
Others	46	16.7
Parity		
1-2	128	46.5
3-4	115	41.8
≥5	32	11.6

Table 1 shows the socio-demographic characteristics of respondents. Higher proportion were in the 30-34 age group 144 (52.4%), married 235(85.5%), attained secondary education 121(44.0%), were unemployed 108(39.3%), were Christians 259(94.2%), were provided for by their husbands 170(61.8%), were Igbos 191(69.5%) and had 1-2 babies 128(46.5%).

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143 **Table 2: Barriers influencing access to PMTCT services**

	n = 275	
Barriers	**Yes**	**No**
	n(%)	**n(%)**
Logistic factors		
Lack of transportation	108(39.3)	167(60.7)
Distance to health facility	66(24.5)	209(76.0)
Location of clinic	56(20.4)	219(79.6)
Cost of registration/transport	198(72.0)	77(28.0)
Long waiting time in the hospital	48(17.5)	227(82.5)
Stigma And Discrimination factors		
Stigmatization by health workers	34(12.4)	241(87.6)
Stigmatization by friends and neighbours	123(44.7)	152(55.3)
Treatment by your family members as they know you are HIV positive	66(24.0)	209(76.0)
Treatment by your community to people living with HIV/AIDS	39(14.2)	236(85.8)
Personal reasons		
Too busy with house hold chores	137(49.8)	138(50.2)
Did not understand was referred to PMTCT center	14(5.1)	261(94.9)
Lost referral letter	12(4.4)	263(95.6)
Fear of side effects of drugs	52(18.9)	223(81.1)
others*	35(12.7)	240(87.3)
Health Workers (HWs) factors		
HWs talk carelessly of our positive result	37(12.2)	238(86.5)
HWs treat us different from other women	38(13.8)	237(86.2)
HWs are unfriendly	45(16.4)	230(83.6)
HWs pass comments about us	52(18.9)	223(81.1)
HWs speak to us in degrading manner	36(13.1)	239(86.9)
HWs ignore HIV patients when they call on them in labour	23(8.4)	252(91.6)
Institutional/facility factors		
PMTCT center very far away	59(21.5)	216(78.5)
Separate from other hospitals	13(3.7)	262(95.3)
Different clinic from where other patients are seen but same hospital	38(13.8)	237(86.2)
Once you enter there everybody knows you are HIV positive	46(16.7)	229(83.3)
Overall experience of any barrier	***259(94.2)***	***6(5.6)***

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145 Table 2 The major barriers due to logistic factors were; cost of registration 198[72.0%] and lack
146 of transport 108[39.3%], Institutional factors included; PMTCT being far away 59[21.5%] and
147 once you enter everyone sees you 46[16.7%], Health workers' factors were; talking to the clients

in a degrading manner 36[13.1%] and 45[16.4%] complained they were treated in unfriendly manner. Stigma and discrimination were from friends/neighbours 123[44.7%] and from health workers 34[12.4%]. Some personal reasons that constituted obstacles were; being too busy with household chores 137[49.8%] and feared side effects of ART drugs 52[18.9%]. Generally, 259(94.2%) experienced at least a form of barrier.

Table 3: Relationship between socio-demographic characteristics and experience of any of the barriers

Socio-demographic	Experience of barrier (n = 275)		Bivariate analysis χ^2 (p value)	Multivariate analysis AOR(95%CI)
	Yes	No		
	Freq(%)	Freq (%)		
Age				
<25	13(100.0)	0(0.0)		
25-29	86(97.7)	2(2.3)	0.658 (0.883)	NA
30-34	139(96.5)	5(3.5)		
≥35	30(96.5)	1(3.2)		
Marital Status				
Single	18(100.0)	0(0.0)	1.403 (0.496)	NA
Married till date	227(96.6)	8(3.4)		
Others	22(100.0)	0(0.0)		
Educational level				
No formal education	15(100.0)	0(0.0)	8.572 (0.036)	
Primary	37(90.2)	4(9.8)		0.9(0.7-11.1)
Secondary	118(97.5)	3(2.5)		0.5(0.4-6.7)
Tertiary	-	-		
Employment status				
Unemployed	106(98.1)	2(1.9)		
Trader	84(98.1)	1(1.2)	8.049 (0.154)	NA
Artisan	20(95.2)	1(4.8)		
Civil / public servant	52(94.5)	3(5.5)		
Farmer	1(100.0)	0(0.0)		
Religion				
Christian	252(97.3)	7(2.7)	0.671 (0.385)	NA
Moslem	15(93.8)	1(6.3)		
Source of income				

Husband	163(95.9)	7(4.1)	2.597 (0.458)	NA
Self	55(98.2)	1(1.8)		
Husband and self	46(100.0)	0(0.0)		
Relatives	-	-		
Ethnicity				
Igbo	184(96.3)	7(3.7)	2.707 (0.439)	NA
Hausa	18(94.7)	1(5.3)		
Yoruba	19(100.0)	0(0.0)		
Others	-	-		
Parity				
1-2	124(96.9)	4(3.1)	6.451(0.040)	
3-4	114(99.1)	1(0.9)		1.1(0.9-8.3)
≥5	29(90.0)	3(9.4)		0.9(0.7-10.8)

Table 3 shows that there were statistically significant association between experience of barriers with educational level ($\chi 2$=8.572, p =0.036) and parity ($\chi 2$=6.451, p=0.040). It also shows that had primary education were about 90% times (AOR 0.9, 95% CI: 0.7-11.1) and those that had secondary education 50% times (AOR 0.5, 95% CI: 04-6.7) times likely not to experience barriers than those that had no formal education. Those whose parity were 3-4 times were about 1.1 times more likely (AOR 1.1, 95% CI: 0.9-8.3) while those 5 times and above that were about 90% times (AOR 0.9, 95% CI: 0.7-10.8) likely to experience barriers than those whose gravidity was 1-2.

DISCUSSION

Wanting to have children is a legitimate desire of men and women in Africa, irrespective of their religious beliefs. This is partly in order to give meaning to life. It is a social norm and this desire cannot be suppressed by HIV infection [19]. The recent availability of PMTCT services in the country has increased the desire of HIV-positive married women to have babies of their own since they hope the interventions will reduce the possibility of their having an HIV-positive baby. However they are confronted with some barriers. This study showed that generally almost

all participants experienced at least a form of barrier (94.2%). However, the major barriers identified were; cost of registration, Stigma and discrimination from friends/neighbours as well as being too busy with household chore.

Cost as a barrier is expected in private facilities because even though drugs are free in both public and private facilities, other ancillary needs are subsidized in public facility which is not so with private. Equally, while HIV treatment is free at the point of service, HIV patients still incur substantial cost in accessing care [20]. These costs are two-fold; financial cost and opportunity cost. The financial cost can be direct or indirect. Direct medical costs include payments made to investigate and treat symptoms, expenditure in the event of hospitalization, purchase of drugs other than HIV drugs as well as registration at facility [20,21] while indirect cost are costs like transportation cost. In our study cost of registration and transport was documented as a major barrier. Also transport cost has been reported in several studies as a major access barrier [22-25]. In a study in South East Nigeria, it was found that transportation cost was one of the reasons for not seeking health care in a health facility [22]. Similarly studies identified issues affecting access to PMTCT treatment for mothers and infants as distance to facilities, frequency of visits required and long waiting time in the hospital [23-25].

Other form of cost always over looked but faced in course of accessing care is the Opportunity cost. It is value of the alternative actions foregone by the individual in order to access care [26]. For one to get to a HIV clinic for treatment some trade-offs are often made. This might be in terms of work, school, business or domestic chores [26]. This featured in this study as personal reasons that constituted obstacles and about half reported that being too busy with household chores was a barrier.

Stigma and discrimination is a major problem often faced by people living with HIV/AIDS in developing countries, including Nigeria [32]. It constitutes one of the greatest barriers to effectively combating HIV pandemic. People with HIV infection are stigmatized because of the widely held belief that it is associated with behaviours considered socially unacceptable by many persons. People fail to undergo testing due to fear of discrimination and stigma and even when they undergo, some fail to disclose their status for the same reason. Some HIV patients have been thrown out of jobs and homes, rejected by family and friends while some have even been killed by their relatives or by themselves instead of continuing to face ordeals they are subjected to [32]. The highest form of stigma and discrimination experienced by respondents from this study was stigmatization by friends and neighbors. Imagine the people that should serve as succor being perpetrators of the same act. HIV-positive women require emotional and moral support from health workers because majority does not get it any other place even at home.

Findings from studies in South Africa [27] Tanzania [28] and Kenya [29] show that stigma regarding HIV status and fear of disclosure to partners or family members (particularly grandmothers or mothers-in-law) were major barriers to uptake of PMTCT ARV interventions Study in Lagos, Nigeria equally found that 69.2% of their respondents said that they would be discriminated against socially and/or culturally if they tested HIV positive [28]. However, in the same study, few of the respondents indicated that people living with HIV/AIDS were accepted and supported in their community. The challenge of rejection and fear of being avoided was still widespread in the community. The International Centre for Research on Women in their study in Botswana and Zambia found that HIV/AIDS-related stigma and discrimination create circumstances that fuel the spread of HIV [29]. The gravity of stigma is so much that many

patient prefer to bear the cost of transportation to access services in facilities far away from their abode than put themselves in a situation of being recognized and the news of their status spread.

The findings from this study show that those whose parity were more than 2 were more likely to experience barriers than those whose parity were 2 and below. This is in line with other studies which documented that being married, increasing age and increasing year were independently associated with access to PMTCT services [2,24]. Equally those that had primary and secondary education were likely not to experience barriers than those that had no formal education. This can be partly explained by empowerment associated with education. The more educated ones are likely to appreciate the jingles, promotions and teachings about HIV thereby making them appreciate that their condition and also understand that PMTCT is only way for productive lives in their family. This possible explanation is also in line with the finding from China and Addis Ababa, Ethiopia where women having secondary and above education level were found to have better knowledge on MTCT and PMTCT of HIV than those with no education [30,31].

Other identified barriers from other studies include; lack of available, accessible, acceptable, and affordable resources negatively influence decisions and actions towards PMTCT. Family contexts matter with decisions and actions towards PMTCT service uptake in Nigeria particularly with disclosure and non-disclosure of sero-positive status, fertility intentions and infant feeding choices [23-25].

CONCLUSION

Almost all of the study participants in this study experienced a form of barrier. The major barriers identified were; cost of registration, Stigma and discrimination from friends/neighbours as well as being too busy with household chores. Parity and educational level influenced barriers

to PMTCT care. There is need for educational empowerment and family planning for the desired goals of PMTCT services to be achieved. Individuals, government, NGOs and other agencies should lend hand in funding HIV and PMTCT services so that everything about it should be free.

CONFLICT OF INTEREST

All authors declare no conflict of interest

Ethical consideration and Consent

Ethical clearance was obtained from the Health Research Ethics Committee of UNTH, Ituku-Ozalla. Written Permission was obtained from heads of the various health facilities that were used for the study. Furthermore, written informed consent was obtained from each participant before administering the questionnaire. Information was provided to each participant on the purpose of the study, their roles and rights as participants, voluntariness, potential benefits and risks of participation. Confidentially was ensured by non-inclusion of self-identifying characteristics in the questionnaire.

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