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Factors Influencing Poor Delivery Of Prevention of Mother-To-Child Transmission (PMTCT) of HIV/AIDS Services In Abia State, Nigeria

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Abstract
This study was designed and undertaken to determine the factors influencing poor delivery of Prevention of Mother to Child Transmission (PMTCT) services in Abia State. A descriptive cross-sectional survey design was employed for the study. The study targeted the health facilities supported by the Abia State Agency for the Control of AIDS. Out of seventeen (17) Local Government Areas (LGAs) in Abia state, four (4) LGAs were randomly selected for the study and all the eighty-one (81) health facilities which provided PMTCT services in the selected LGAs were studied. The facilities constitute 66(74%) primary health facilities, 14(17.3%) secondary health facilities and only 1(8.6%) tertiary health facility. The instrument for data collection was a structured questionnaire which elicited information on the competency, level of knowledge and attitude of PMTCT services providers in the stud area. An analysis of data was done using both descriptive and inferential statistics. Findings revealed that the highest percentages (49.4%) of the participants were nurses/midwives followed by Community health workers with 22.9%, medical laboratory scientist had 14.1%, pharmacist had 12.5%, and medical doctor recorded 1.1%. The study found that 80(14.1%) of the participants reported that HIV positive women should be recommended for PMTCT services, 287(50.6%) reported that HIV positive pregnant women should go for PMTCT services, 40(7.1%) said any woman and 160(28.2%) said pregnant women and lactating mothers should go for PMTCT services. Findings further revealed that 72(12.7%) strongly agreed that HIV positive women should pay more for PMTCT services, 45(7.9%) agreed, 150(26.5%) disagreed to the more payment by HIV positive women for PMTCT services and 300(52.9%) strongly disagreed. It was concluded that poor PMTCT services delivery previously reported in Abia State could likely be because of the incompetence, low level of knowledge and poor attitude of caregivers for optimum PMTCT service delivery. There is need to give priority attention to this important component of PMTCT service delivery in the state if the desired reduction in Mother to child transmission of HIV to be achieved on target.

Keywords: *Competency, Level of knowledge, Attitude, PMTCT, service-providers, equipment, materials, Nigeria*

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I. Introduction

In most parts of the world, Human Immune Deficiency Virus (HIV) infection is increasing faster among women than men. Globally, in 2015 there were an estimated 17.8 million women living with HIV (15 and older), constituting 51 per cent of all adults living with HIV (The Joint United Nations Programme on HIV/AIDS, 2015). Human Immune Deficiency Virus (HIV) is the causative organism of AIDS which was first discovered in the year 1981 (UNAIDS, 2010). AIDS is a disease of the immune system that makes the individual highly vulnerable to life-threatening infections such as tuberculosis (TB) and certain types of cancer. AIDS is caused by a retrovirus known as Human Immunodeficiency Virus (HIV) which attacks and impairs the body's natural defense system against diseases and infections (Piwoz & Preble, 2000).

Globally about 1.4million pregnant mothers are living with HIV in low and middle countries and of these, 1000 babies are infected every day during pregnancy, birth and breastfeeding (UNICEF, 2009). Although

West and Central Africa has seen a 31% reduction in new child HIV infections between 2010 and 2015, it has made less progress compared to East and Southern Africa (UNAIDS 2016).

There is still a worrisome increased rate of the infection despite years of campaigns, advocacy, control programmes and awareness exercises taken to curb HIV/AIDS spread. According to (UNAIDS 2006), about 33.3 million people are estimated to live with Human immune Deficiency virus globally; 22.5 million of this population are from the sub-Saharan Africa. Over 55% of these people living with HIV are women of reproductive age who become pregnant thereby increasing the epidemic of peri-natal HIV (UNAIDS, 2006). About 2.5million children live with HIV globally and 1.8million are from sub-Saharan Africa**.** Worldwide, over 1700 children become infected with HIV daily (UNAIDS, 2015).

In Nigeria, about 69,400 children became infected with HIV through mother-to-child transmission in 2011. This has led to a rise in the total number of children living with HIV in the country to an unprecedented 440,000 (UNAIDS, 2012; NACA, 2014). According to Majumali, (2011), virtually all HIV infection in children occurs following mother to child transmission during the antenatal period (pregnancy), intra-natal period (labour/delivery) and the post-natal period. Mother-to-child transmission of HIV is about 5-10% during pregnancy, 10-20% during labour and 10-15% during breastfeeding. There is an estimation of about 20-45% chances of a baby born to an HIV positive mother to become infected without effective interventions to prevention of mother-to-child transmission (UNAIDS, 2013). With effective interventions, such as use of antiretroviral drugs for mother, formula feeding among others, the risk of mother to child transmission has been shown to reduce by 5%. Primary preventive measures (prevention of new infections in parents and avoiding new pregnancies in HIV infected women) and secondary preventive measures (preventing transmission of HIV from an infected mother to her infant) are the three approaches in reducing mother to child transmission (MTCT) promoted by the World Health Organization (Balogun & Odeyemi, 2010).

Mother to child transmission (MTCT) also known as vertical transmission occurs when HIV positive woman passes the virus to her baby. This can occur during pregnancy, labour and delivery or breastfeeding, (Msellati, Leroy & Lepage, 2002). The most effective means of reducing mother-to-child transmission is to provide fully suppressive Antiretroviral therapy (ART) to the mother in long term, thereby not only reducing the risk of vertical transmission, but also sustaining the life and health of the mother while the child is growing up. In high income countries, MTCT has been virtually eliminated due to effective prevention programmes (Preble & Piwoz, 2002). Prevention of mother-to-child transmission (PMTCT) aims at reducing the risk of a mother infecting her child with HIV and starts with primary prevention of the infection in women of childbearing age who are the main vehicles of pediatric HIV transmission.

In order to reduce the prevalence of HIV among women of child bearing age, PMTCT programme was initiated. PMTCT exists in different parts of the world including Nigeria. The services which include HIV counseling and testing, ART, obstetric intervention (cesarean section) and safer infant feeding (Ioannidis, Abrams, & Ammann, 2001) are available in different parts of the world. Magoni et al (2007) maintained that successful implementation of PMTCT programme for a larger number of women are feasible if the health system has adequate resources and personnel. This implies that availability and adequate delivery of the PMTCT programme will reduce or eliminate the risk of MTCT of HIV.

Modern PMTCT strategies include testing for HIV during pregnancy, modified obstetric practices, preventive anti-retroviral (ARV) drugs, and modified infant feeding practices. These strategies, which are still limited both in scope and reach in most of Sub-Saharan Africa, where ironically, the heaviest burden of maternal HIV infection and MTCT exist, have the potential of reducing the MTCT risk down to only 2 to 5 percent (WHO, 2010).The World Health Organization (2010) recommends lifelong highly active antiretroviral therapy (HAART) for HIV-infected women in need of treatment for their own health, which is also safe and effective in reducing MTCT or ARV prophylaxis to prevent MTCT during pregnancy, delivery and breastfeeding for HIV-infected women not in need of treatment for themselves. The goals of PMTCT programme go beyond decreasing the MTCT risk to a minimum, and aim to achieve the strategic goal of virtual elimination of HIV infection in infants (Malyuta, Newell, Ostergren, Thorne & Zhilka, 2006). Skinner et al (2005), articulated that availability and adequacy of resources are important factors in the delivery of PMTCT services. He also mentioned that the problem in implementing PMTCT services is that several clinics that provide the services to the local population were already under staffed and over-pressured. In Abia state however, there has been a gap in the delivery of basic PMTCT services which includes; testing for HIV during pregnancy, modified obstetric practices, preventive anti-retroviral (ARV) drugs, and modified infant feeding practices. A survey in health facilities providing antenatal care done by Family Health International 360 (2015), reveals shortfalls in human resources needed for PMTCT service delivery, supply of Antiretroviral drugs, Registers and supplements given to HIV positive women that are pregnant and some facilities lacked basic infrastructure that is needed for PMTCT services. Hence, this research hereby aims to determine the factors that strongly influence poor delivery of PMTCT services in Abia state.

Statement of the Problem

Since the first pediatric AIDS case was documented in 1985, the number of infected children has increased markedly, and the health care for these children is becoming an increasing burden on the public health system (Perez- Then et al, 2003). As a result, PMTCT programme was initiated. PMTCT exist in different parts of the world including Nigeria. The services which include Voluntary Counselling, HIV testing, Anti-retroviral therapy, Obstetric intervention (cesarean section) and safer infant feeding (Ioannidis, Abrams, & Ammann, 2001) are available in different parts of the world. Magoni et al (2007) maintained that successful implementation of PMTCT programme for a larger number of women is feasible if the health system has adequate resources and personnel. This implies that availability and adequate utilization of the services will reduce or eliminate the risk of MTCT of HIV.

The national PMTCT guidelines encourage the use of triple-antiretroviral therapy for HIV pregnant women to prevent vertical transmission to their children. The use of single-dose Nevirapine as the main ARV prophylaxis has been phased out, but there are reports of its use during labour in the state. A random interrogation by the researcher among PMTCT service providers in the state revealed that since the close out of the SIDHAS (Strengthening Integrated Delivery of HIV/AIDS Services) project by Fhi360 in 2015, there has been gross stock-out of basic PMTCT materials such as hand gloves, cotton wool, soaps and some antiretroviral drugs like Cotrimozazole and Nevirapine.

A rapid facility assessment aimed to document human health resource, service provision and utilization indices in order to engage PMTCT facilities in scale up efforts to boost PMTCT coverage and access in Abia State revealed wide gaps in current PMTCT coverage. At the time of the survey, Human resource (HR) deficiencies were observed for all cadres of staff necessary for optimal delivery of PMTCT and maternal and child health (MCH) services with only 44 facilities meeting national minimum human resource complements for PMTCT service provision. Some facilities also lacked necessary infrastructure for PMTCT. Health workers report that deliveries occur outside the health facility, in maternity homes and with TBAs. Reasons adduced for this included cultural beliefs, logistic problems with efficient health service delivery, health care costs and poor staff attitudes.

The country report of PMTCT in Nigeria was compiled by Agu (2009), he outlined the key implementation barriers to scaling up PMTCT programme. Some of the key barriers included factors such as the lack of male involvement, shortages of staff and neglected follow-up after delivery for both mother and baby. The PMTCT scale up plan was developed to support acceleration of PMTCT programming in Abia State and other priority states such as Akwa Ibom, Anambra, Bayelsa, Benue, Cross-Rivers, Kaduna, Kano, FCT, Lagos, Nassarawa, Plateau and Rivers. In March 2013, ANC facilities in Abia state which could provide comprehensive PMTCT services were assessed and only 7% (44) of these were found to meet nationally prescribed human resource criteria for scale-up (one doctor, one nurse,/midwife, two community workers, one pharmacy staff, one laboratory staff, one medical records officer) (Fhi360 report, 2015). Even though the PMTCT programme is currently available in 366 health facilities within the state, there is need to examine the decline in optimum PMTCT service delivery in Abia State. There is currently a dearth of knowledge in the factors influencing poor PMTCT service delivery in Nigeria especially in Abia State. It is this gap that this study is intending to bridge.

Objective of the Study

The main objective of this study was to determine the factors influencing poor delivery of prevention of mother-to-child transmission (PMTCT) of HIV/AIDS services in Abia State. The study undertook the following objectives:

1. To determine the competency of PMTCT service providers in Abia State
2. To determine the level of knowledge of PMTCT services among PMTCT service providers in Abia State
3. To determine the attitude of service providers towards PMTCT services in Abia State

II. Materials And Methods

Descriptive cross-sectional research design was employed for this study. The study was carried out in Abia state, Nigeria. The study involved health facilities (tertiary, secondary and primary) in Abia State that offer PMTCT services and are supported by Abia State Agency for the Control of AIDS. Multi-stage random sampling method was used to select four (4) LGAs from the seventeen (17) LGAs in Abia State with PMTCT services for the study. A total of eighty-one (81) health facilities that offer PMTCT services were studied in the four (4) selected LGAs in Abia state.

A structured questionnaire titled: PMTCT Service Providers (QPSPs) was developed for data collection. QPSPs comprised of sections A, B, C and D. Section A consists of questions on bio-data of respondents, Section B consists of questions on competency of PMTCT caregivers. The section C consists of questions on the level of knowledge of PMTCT services among care-givers and D consists of questions on the

attitude of caregivers towards PMTCT services. The questionnaire was used for data collection after establishing its validity and reliability. Oral consent for the study was obtained from the administrative heads of the facilities studied. The administrative heads also assisted with navigation within the health facilities as observation and filling of the copies of the questionnaire were carried out. Data were analyzed using Statistical Package for Social Science (SPSS) version 20.0 and the results were presented in simple frequency and percentages. Then, Z-test and chi-square were used to test hypothesis 1 and 2 while analysis of variance (ANOVA) were employed to test hypothesis 3. The hypotheses were tested at 0.05 levels of significance.

III. Results And Discussion

Demographic Characteristics of Respondents at the Facility

The result in table 1 presented demographic characteristics of respondents at the facility; where their ages were as follows; 20(3.5%) were 15–20 years, 41(7.2%) were between 21-25 years, 79(13.9%) were between 26-30 years, 187(33%) were between 31-35 years, 20(3.5%) were between 36-40 years, 220(38.8%) were 41years above. Concerning gender, 500(88.2%) were female and 67(11.8%) were male. On the same table, the highest percentages (49.4%) of the participants were nurses/midwives followed by Community health worker with 22.9%, medical laboratory scientist had 14.1%, pharmacist had 12.5%, and medical doctor recorded 1.1%. Marital status, 138(24.3%) were single, 29(75.7%) were married and nobody was found in divorced, widowed and separated. Religion do you practice, majority 544(95.9%) of respondents were Christians, 18(3.2%) were traditional worshipper, 3(0.5%) was Judaism and Islam had 2(0.4%).

Table 1: Demographic Characteristics of Respondents at the Facility

Statement	Frequency (N=567)	Percentage (%)
Age group		
15-20 Years	20	3.5
21-25 Years	41	7.2
26-30 years	79	13.9
31-35 Years	187	33.0
36-40 years	20	3.5
41 years and above	220	38.8
Total	567	100.0
Gender		
Male	67	11.8
Female	500	88.2
Total	567	100.0
Professional cadre		
Medical doctor	6	1.1
Nurse/Midwife	280	49.4
Community health worker	130	22.9
Medical laboratory officer	80	14.1
Pharmacist	71	12.5
Total	567	100.0
Marital status		
Single	138	24.3
Married	429	75.7
Divorced	0	0.0
Widowed	0	0.0
Separated	0	0.0
Total	567	100.0
Religion do you practice		
Christianity	544	95.9
Islam	2	0.4
Judaism	3	0.5
Traditional Worshipper	18	3.2
Total	567	100.0

Competency of PMTCT Care-givers (Health workers)

The result in table 2 showed competency of PMTCT Care-givers (Health workers); the highest percentages (49.4%) of the participants were nurses/midwives followed by Community health worker with 22.9%, medical laboratory scientist had 14.1%, pharmacist had 12.5%, and medical doctor recorded 1.1%. Periods where the professional cadre has worked in PMTCT site; 257(45.3%) said less than 1 year, 220(38.8%) said 1-2 years, 23(4.1%) said 3-4 years, 7(1.2%) said 5-6 years and 60(10.6%) reported 7 years above. Periods they have involved in the PMTCT or antiretroviral therapy (ART) programme; 100(17.6%) said less than 1 year, 77(13.6%) said 1-2 years, 130(22.9%) said 3-4 years, 140(24.7%) said 5-6 years and 120(21.2%) reported

7 years above. The respondents were asked if they have attended any comprehensive training on PMTCT; 420(74%) said no and 147(25.6%) said yes. From the result, 40(7.1%) of the caregiver said less than 4 patients and 4-6 patients respectively per day at the health facility, majority 452(79.7%) said 7-9 patients per day and 35(6.2%) said above 10 patients per day. The number of PMTCT patients the health workers handle daily was overwhelming, 157(27.6%) said yes while 410(72.3%) said no to that idea.

Table 2: Competency of PMTCT Care-givers (Health workers)

Statement	Frequency	Percentage
Professional cadre		
Medical doctor	6	1.1
Nurse/Midwife	280	49.4
Community health worker	130	22.9
Medical laboratory officer	80	14.1
Pharmacist	71	12.5
Total	567	100.0
You been working in this PMTCT site		
< 1 year	257	45.3
1-2 years	220	38.8
3-4 years	23	4.1
5-6 years	7	1.2
7 years and above	60	10.6
Total	567	100.0
Long have you been involved in the PMTCT or antiretroviral therapy (ART) programme		
< 1 year	100	17.6
1-2 years	77	13.6
3-4 years	130	22.9
5-6 years	140	24.7
7 years and above	120	21.2
Total	567	100.0
Attended a comprehensive training on PMTCT		
Yes	147	25.6
No	420	74.0
Total	567	100.0
Number of PMTCT patients do you attend to daily at the Health facility?		
Less than 4 patients	40	7.1
4-6 patients	40	7.1
7-9 patients	452	79.7
Above 10 patients	35	6.2
Total	567	100.0
Number of PMTCT patients you handle daily overwhelming		
Yes	157	27.6
No	410	72.3
Total	567	100.0

Relationship between competency of PMTCT caregivers and PMTCT services delivery

Hypothesis 1: There is no significant relationship between competency of PMTCT caregivers and PMTCT services delivery in Abia State

Table 3:

Variables	N	Df	Alpha	r	Sig.
Professional Cadre * Voluntary Counseling	567	566	0.05	0.162	0.149
Professional Cadre * Nutritional Counseling	567	566	0.05	0.140	0.211
Professional Cadre * HIV testing	567	566	0.05	0.100	0.374
Professional Cadre * Antiretroviral therapy	567	566	0.05	0. 157	0. 163
Professional Cadre * Labour and delivery	567	566	0.05	0. 112	0.319
Professional Cadre * Caesarean section	567	566	0.05	0. 754	0.001

The data on Table 3 revealed that Professional cadre & voluntary counseling have a statistical positive significant linear relationship ($r = 0.162$, $p < 0.149$).

The data on Table 3 revealed that Professional cadre & nutritional counseling have a statistical positive significant linear relationship ($r = 0.140$, $p < 0.211$).

The data on Table 3 revealed that Professional cadre & HIV testing have a statistical positive significant linear relationship ($r = 0.100$, $p < 0.374$).

The data on Table 3 revealed that Professional cadre & antiretroviral therapy have a statistical positive significant linear relationship ($r = 0.157$, $p < 0.163$).

The data on Table 3 revealed that Professional cadre & labour and delivery have a statistical positive significant linear relationship ($r = 0.112$, $p < 0.319$).

The data on Table 3 revealed that Professional cadre & Caesarean section have a statistical positive significant linear relationship ($r = 0.754$, $p < 0.001$).

The figure 1 presented the body that organized the PMTCT training, 17.6% reported ministry of health, 18.5% said international non-governmental organization (NGO), 35.1% said national/state NGO, and 14.6% said local health facility and others were 14.1%

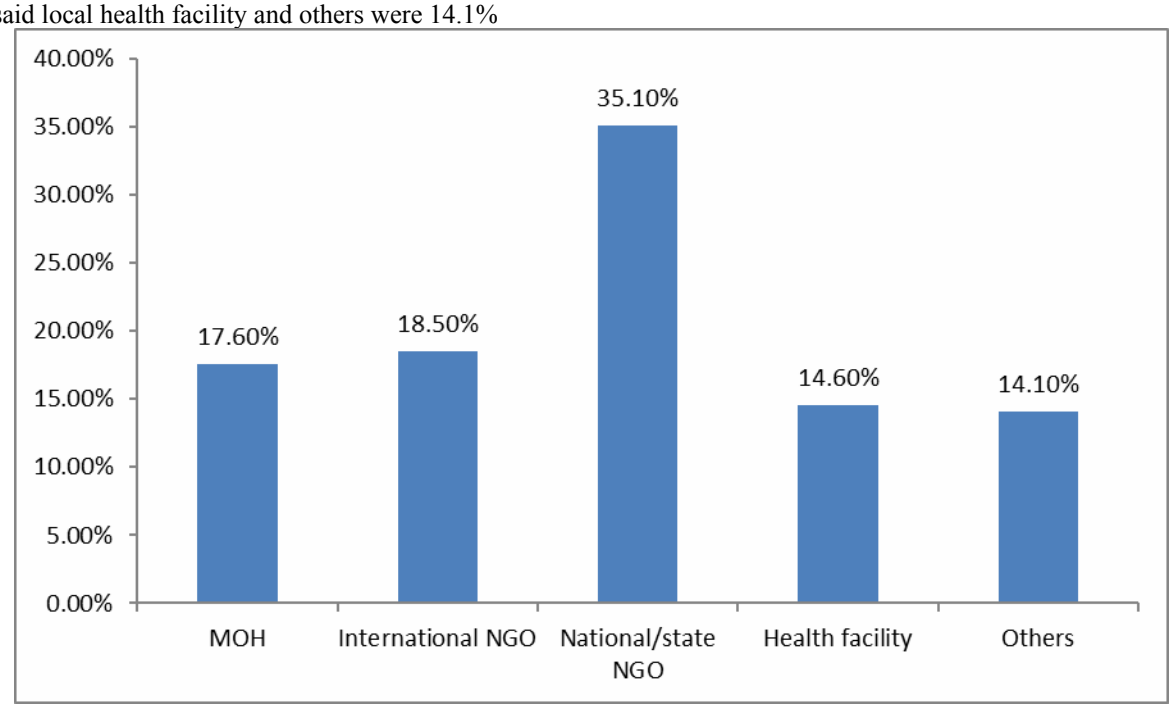

Figure 1: Who organized the training?

Level of Knowledge of PMTCT Services among Care-givers

The result in table 4 presented the level of knowledge of PMTCT Services among Care-givers; 80(14.1%) of the participants reported that HIV positive women should be recommended for PMTCT services, 287(50.6%) reported that HIV positive pregnant women should go for PMTCT services, 40(7.1%) said any woman and 160(28.2%) said pregnant women and lactating mothers should go for PMTCT services. There is significant difference (X^2=491.66,df=3, P<0.001). From the knowledge of respondents; 70(12.3%) said Mother-to-Child Transmission of HIV/AIDS can occur during the following except pregnancy and breastfeeding, 147(25.9%) said except all HIV positive individuals, 280(49.4%) said except kissing and it showed significant difference (X^2=207.66,df=3, P<0.001).

HIV counseling and testing is recommended for the following except; all pregnant women with 3(0.5%), 127(22.4%) said except labour/delivery, 357(63%) said except All men and women and 80(14.1%) said none of the above. HIV exposed infants should receive ARVs, 457(80.7%) supported it while 110(19.4%) said no and it showed significant difference (X^2=212.36,df=1, P<0.001). Out 567 respondents, 60(10.6%) reported that nutritional counseling is nota PMTCT service, 342(60.3%) said physiotherapy is not a PMTCT service, 61(10.8%) said voluntary counseling and testing and 104(18.3%) said caesarian session and it showed significant difference (X^2=386.09,df=3, P<0.001).

Furthermore, the primary prevention of HIV/AIDS includes all except; correct and consistent use of condom with 80(14.1%), abstinence with 127(22.4%), excluding male partners from HIV education program with 360(63.5%) and it showed significant difference (X^2=237.92,df=2, P<0.001. Also, only 81(14.3%) of the respondents reported it is true that home delivery is recommended for HIV positive women in labour while majority 486(85.7%) was against that idea. For exclusive breastfeeding is recommended for the PMTCT programme, 435(76.7%) supported that while 132(23.3%) was not in support.

Table 4: Level of Knowledge of PMTCT Services among Care-givers

Statement	Frequency	Percentage	
PMTCT services are recommended for which of the following			
HIV positive Women	80	14.1	
HIV positive Pregnant Women	287	50.6	
Any woman	40	7.1	
Pregnant women and lactating mothers	160	28.2	
Total	567	100.0	X^2=491.66,df=3, P<0.001

Mother-to-Child Transmission of HIV/AIDS can occur during the following except			
Pregnancy	70	12.3	
Labour/Delivery	147	25.9	
Breastfeeding	70	12.3	
Kissing	280	49.4	
Total	567	100.0	X^2=207.66,df=3, P<0.001
HIV counseling and testing is recommended for the following EXCEPT			
All pregnant women	3	.5	
All HIV positive individuals	127	22.4	
All men and women	357	63.0	
None of the above	80	14.1	
Total	567	100.0	
HIV exposed infants should receive ARVs			
True	457	80.6	
False	110	19.4	
Total	567	100.0	X^2=212.36,df=1, P<0.001
Which of these is NOT a PMTCT service?			
Nutritional counseling	60	10.6	
Physiotherapy	342	60.3	
Voluntary Counseling and Testing	61	10.8	
Caesarian session	104	18.3	
Total	567	100.0	X^2=386.09,df=3, P<0.001
Primary prevention of HIV/AIDS includes all EXCEPT			
Correct and consistent use of condom	80	14.1	
Abstinence	127	22.4	
Excluding male partners from HIV education program	360	63.5	
Total	567	100.0	X^2=237.92,df=2, P<0.001
Home delivery is recommended for HIV positive women in labour			
True	81	14.3	
No	486	85.7	
Total	567	100.0	X^2=289.28,df=1,P<0.001
Exclusive breastfeeding is recommended for the PMTCT programme			
True	435	76.7	
False	132	23.3	
Total	567	100.0	

The figure 2 presented the acronym PMTCT which refers to as; according to respondents, 2(0.4%) of them said it means prevention of tuberculosis, 3(0.5%) said prevention of teenage pregnancy and majority 562(99.1%) said Prevention of mother-to-child transmission of HIV/AIDS.

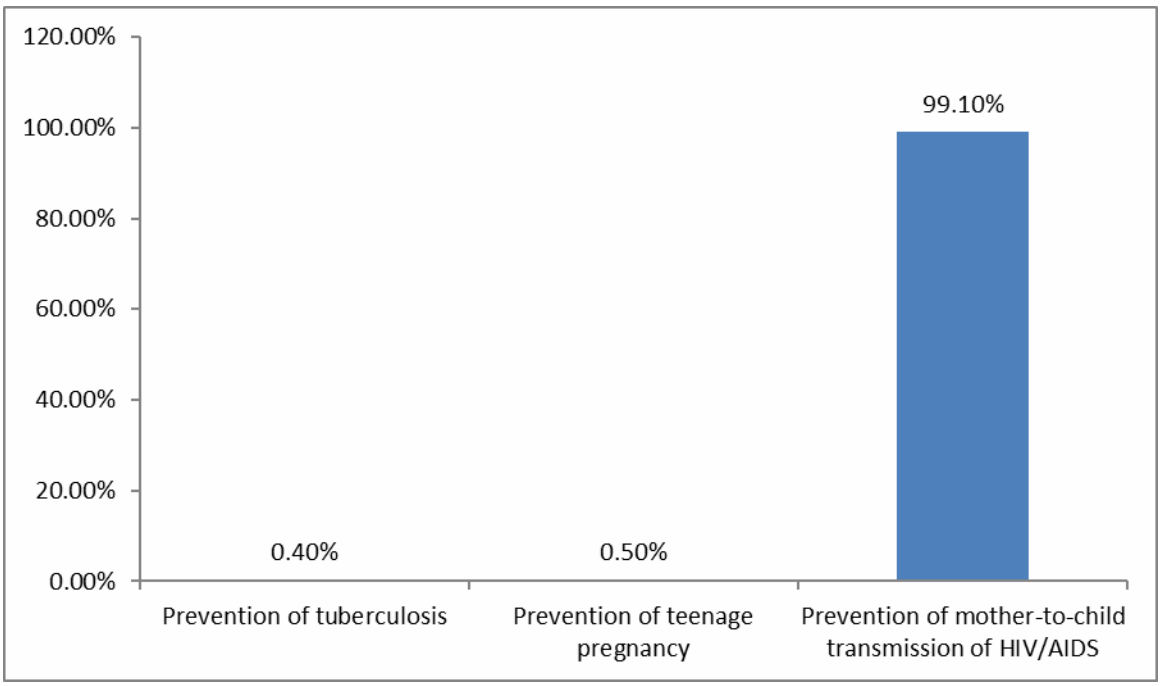

Figure 2: Acronym PMTCT refers to

The figure 3 showed that 14.1% of respondents indicated that multivitamins can reduce the risk of MTCT, 78.8% said taking antiretroviral (ARV) therapy, 0.4% said blood capsules and none of the above was 6.7%.

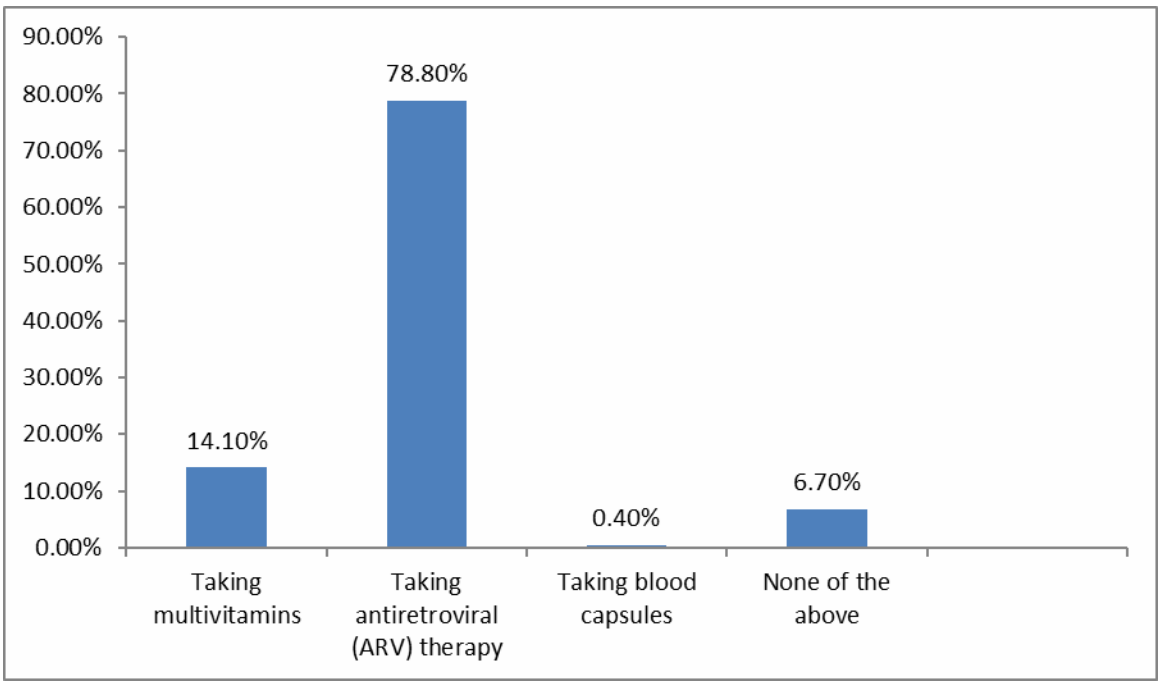

Figure 3: Which of the following can reduce the risk of MTCT?

Attitude of Caregivers towards PMTCT Services

The result in table 5 presented the attitude of caregivers towards PMTCT Services; 72(12.7%) strongly agreed that HIV positive women should pay more for PMTCT services, 45(7.9%) agreed, 150(26.5%) disagreed to the more payment by HIV positive women for PMTCT services and 300(52.9%) strongly disagreed. HIV positive women should not be allowed to use same rooms as other women; only 4(0.7%) strongly agreed, 7(.1.2%) agreed, 178(31.4%) disagreed and 378(66.7%) strongly disagreed. A woman's HIV status can be used to make reference during ANC sessions; 48(8.5%) strongly agreed, 33(5.8%) agreed, 146(25.7%) disagreed and 340(60%) strongly disagreed. Nutritional counseling is not necessary for HIV positive mothers; 9(1.6%) strongly agreed, 2(0.4%) agreed, 137(24.2%) disagreed and 419(73.9%) strongly disagreed. HIV positive women should not be admitted without their spouse' consent; 9(1.6%) strongly agreed, 98(17.3%) agreed, 230(40.6%) disagreed and 230(40.6%) strongly disagreed. In cases of drugs and supplies stock-out, health workers should NOT care for HIV positive patients; 9(1.6%) strongly agreed, 98(17.3%) agreed, 230(40.6%) disagreed and 230(40.6%) strongly disagreed. In cases of drugs and supplies stock-out, health workers should not care for HIV positive patients; only 4(0.7%) strongly agreed, 52(9.2%) agreed, 205(36.2%) disagreed and 306(54%) strongly disagreed. Home delivery should be done for HIV positive mothers in cases of poor power supply in health facility; only 3(0.5%) strongly agreed, 86(15.2%) agreed, 227(40%) disagreed and 251(44.3%) strongly disagreed. HIV positive women should be compelled to give gifts in appreciation to health workers; 35(6.2%) strongly agreed, 86(15.2%) agreed, 126(22.2%) disagreed and 320(56.4%) strongly disagreed.

Table 5: Attitude of Caregivers towards PMTCT Services

Statement	SA	A	D	SD
HIV positive women should pay more for PMTCT services	72(12.7%)	45(7.9%)	150(26.5%)	300(52.9%)
HIV positive women should NOT be allowed to use same rooms as other women	4(0.7%)	7(.1.2%)	178(31.4%)	378(66.7%)
A woman's HIV status can be used to make reference during ANC sessions	48(8.5%)	33(5.8%)	146(25.7%)	340(60%)
Nutritional counseling is not necessary for HIV positive mothers	9(1.6%)	2(0.4%)	137(24.2%)	419(73.9%)
HIV positive women should NOT be admitted without their spouse' consent	9(1.6%)	98(17.3%)	230(40.6%)	230(40.6%)
In cases of drugs and supplies stock-out, health workers should NOT care for HIV positive patients	4(0.7%)	52(9.2%)	205(36.2%)	306(54%)
Home delivery should be done for HIV positive mothers	3(0.5%)	86(15.2%)	227(40%)	251(44.3%)

in cases of poor power supply in health facility				
HIV positive women should be compelled to give gifts in appreciation to health workers	35(6.2%)	86(15.2%)	126(22.2%)	320(56.4%)

Relationship between attitude of PMTCT caregivers and PMTCT services delivery

Hypothesis 3: There is no significant relationship between attitude of caregivers and PMTCT services delivery in Abia State

Table 6:

Variables	N	Df	Alpha	r	Sig.
Professional Cadre * HIV positive women to pay more for PMTCT services	567	566	0.05	0.658	0.001
Professional Cadre * HIV positive women should not be allowed to use same rooms	567	566	0.05	0.584	0.001
Professional Cadre * a woman's HIV status can be used to make reference during ANC sessions	567	566	0.05	0.583	0.001
Professional Cadre * nutritional counseling is not necessary for HIV positive mothers	567	566	0.05	0.157	0.163

The data on Table 6 revealed that Professional cadre & HIV positive women to pay more for PMTCT services have a statistical positive significant linear relationship ($r = 0.658$, $p < 0.001$).

The data on Table 6 revealed that Professional cadre & HIV positive women should not be allowed to use same rooms scores have a statistical positive significant linear relationship ($r = 0.584$, $p < 0.001$).

The data on Table 6 revealed that Professional cadre & a woman's HIV status can be used to make reference during ANC sessions have a statistical positive significant linear relationship ($r = 0.583$, $p < 0.001$).

The data on Table 6 revealed that Professional cadre & nutritional counseling is not necessary for HIV positive mothers scores have a statistical positive significant linear relationship ($r = 0.157$, $p < 0.163$).

IV. Discussion

In relation to the competency of PMTCT service providers, the findings from this study indicate that most of the health workers have not received comprehensive training on providing PMTCT services which is required to enhance their competency and knowledge of PMTCT strategies and services. This will lead to providing poor quality PMTCT services. The study also revealed that there are very limited qualified human resource/health care professionals to provide PMTCT services in the state. From the findings of this study, most health care facilities in Abia state do not have qualified medical doctors, nurses and pharmacists for optimum PMTCT service delivery.

The results of this study also showed that a significant percentage of health workers feel overwhelmed by the number of patients they handle daily. This work-fatigue can impact on the quality of PMTCT services rendered. Highest percentage of the respondents reported that PMTCT services are recommended for HIV positive pregnant women and HIV exposed infants should receive ARVs while few of them reported home delivery is recommended for HIV positive women in labor like the study of Doherty et al (2006). A greater percentage of the health workers supported the idea that exclusive breastfeeding is recommended for the PMTCT program.

Following the work done by Nuwagaba et al (2007) in Uganda, they investigated the challenges faced by health workers in implementing the Prevention of Mother to Child HIV Transmission (PMTCT) programs and the major challenge in dealing with the women was the issue of breastfeeding. In this study, breastfeeding was recommended for women with HIV like the work of Nuwagaba, et al who reported that mothers and the entire family should support the mothers in mode of infant feeding.

V. Conclusion

In conclusion, PMTCT services in Abia state is greatly influenced by the knowledge gap about the PMTCT concept among health care providers, incompetency of available human resources for PMTCT service delivery and poor attitude of PMTCT service providers in most of the studied health facilities.

VI. Recommendations

Based on the findings of the study, the following recommendations were considered necessary such as;

1. The state ministry of health and partner agencies should prioritize conducting intensive training on PMTCT services for health workers involved in the PMTCT program to update their knowledge and skills.
2. More qualified health workers should be deployed to primary and secondary health facilities to support optimum PMTCT service delivery, especially at the community level.
3. Rationalization of workload of PMTCT service providers should be prioritized across the health facilities in the state to prevent fatigue and burn-out from high clientsclient influx.

4. Incentives and sanctions should be introduced in the health workers appraisal system to boost the morale of PMTCT service providers for a better attitude to work.

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