

## **Assessing Knowledge and Practice of Prevention of Mother to Child Transmission of HIV Documentation among Health Workers in Oyo State, South West, Nigeria**

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### **Abstract**

*Prevention of mother to child transmission of HIV (PMTCT) programme in Nigeria started in July 2002 with the goals of providing effective PMTCT services for women in the reproductive age group in selected health facilities while providing useful information for policy formulation and decision on intervention for comprehensive PMTCT in Nigeria. However, most of the health workers documenting the PMTCT programmes in the health facility lack the required skills and capacity in offering PMTCT services and effecting efficient documentation of programme activities. Information on the knowledge and practice of PMTCT documentation among health workers in Oyo State was obtained through administration of close-ended questionnaires to the respondents in 113 health facilities. The study concluded that most of the health workers have good knowledge of PMTCT documentation with those working in the public facility having better understanding than those in the private facility. In addition, most of the respondents lack proper understanding of PMTCT HIV testing algorithms. However, private facility will benefit tremendously from further training on documentation and serial HIV testing.*

**Keywords:** HIV; PMTCT; Nigeria; Knowledge; Practice; Health workers; Public; Private; Facility

### **Introduction**

In the sub-Saharan African countries human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) are the leading causes of morbidity and mortality amongst women and children. Large number of children who are not up to 15 years of age were newly infected by HIV in 2009 and an estimated 42 000–60 000 pregnant women died as result of HIV all over the world. In addition, more than 90% of the paediatric infections occurred through mother to child transmission. Nigeria is one of the disadvantaged nations that account for the highest estimated numbers of pregnant women living with HIV, while the number of new HIV infections amongst children and HIV-related deaths is virtually zero in rich countries with timely access to timely preventive services (UNAIDS, 2011).

Nigeria with nine percent of the world HIV burden came second after South Africa in term of highest number of people living with HIV globally (FMOH, 2008 & Unaid.org, 2016). Women aged between 20 and 29 years are affected by HIV than men as they accounted for 58% of the national HIV burden<sup>3</sup> and this has an effect for the transmission of HIV from mothers to children.

Several factors contribute to the high burden of paediatric HIV infection in Nigeria and other sub-Saharan African countries such as high prevalence of HIV infection amongst women of reproductive age, high birth rates and lack of access to effective prevention interventions of mother to child transmission of HIV (De Cock et al, 2000).

30-45% of exposed infant born to positive pregnant HIV mothers in developing countries are at risk of being infected. However, rates of Mother to Child Transmission (MTCT) of HIV have fallen to as low as 2% in the developed countries with the use of the Prevention of Mother to Child (PMTCT) services (Dabis, Leroy & Castebonk, 2000). HIV counselling and

testing (HCT) is a key component of services provided (Adewole, Oluwole & Sagay, 2006). PMTCT programme in Nigeria commenced in July 2002 with the goals of providing effective PMTCT services for women in the reproductive age group in selected health facilities and generating information for the formulation of a national policy and implementation guidelines on intervention for comprehensive PMTCT in Nigeria. Several hundred sites are currently providing these services in Nigeria as the country account for 15-30% of global gap on PMTCT with PMTCT programme coverage limited as only 4.7% Ante Natal Care (ANC) offer PMTCT services in the country (WHO/UNICEF/UNAIDS, 2011).

Nigeria has developed a national scale up plan towards elimination of mother to child transmission of HIV (2010-2015) and has adopted the Guidelines on option A and B prophylaxis regimens combination of World Health Organization 2010 (Coetzee et al, 2005). Although these goals are clearly fitting in their scope, the disparity in the outcomes they actually target reveals a lack of clarity and consensus around how to monitor the influence of PMTCT programmes. Hence, the need for the enhancement of PMTCT documentation in the country is very desirable.

Reliable and accurate public health information is essential towards achieving the United Nations Millennium Development Goals and hence the need for high-quality data has never been greater (Avertorg, 2016).

Most of the health workers documenting the PMTCT programmes in the health facility lack the required skills and capacity in offering PMTCT services and effecting efficient documentation of programme activities.

The study will evaluate the knowledge and practice of PMTCT documentation among health workers in Oyo State, South-West, Nigeria.

### **Statement of the problem**

Prevention of Mother to Child transmission of HIV is very important in saving the life of exposed infant and reducing the effect of the disease in sub-Saharan Africa and hence documentation of its programme activities are very critical in making informed decision to improve services. Majority of health workers in Nigeria today are often less informed and less knowledgeable about PMTCT services and documentation. This has resulted in poor knowledge and practices of documentation and subsequently poor health information needed to improve delivery of PMTCT services. It is therefore very necessary to correct this knowledge gap that has effect on the quality of data generated on PMTCT services as a result of poor documentation.

### **Background of study area**

The study location is Oyo State. Oyo state was established alongside Ogun and Ondo states (Olaniyan, 2013) in April 1976 from the defunct Western States of Nigeria. It lies between latitudes 07°46'N and longitudes 03°56'E.

The total population of Oyo State according to the 2006 Nigeria population census is 5, 591, 589 (Amazoncom, 2016). The population was estimated to be 7,066,807 in 2013.

Oyo state falls within the South Western zone of Nigeria and comprised of 33 Local Government Areas (LGAs), which are vastly dispersed. The state shares an international boundary with the Republic of Benin and nationally with Ogun State, Osun State and Kwara State. The largest city in West Africa, Ibadan is the state capital.

The predominant occupation in Oyo State is farming as there are both rainforest and savannah areas in the State. In addition, Oyo State is highly urbanized with varying degree of urbanization in each of the local government areas and it has one of the fastest growing urban populations.

The first University Teaching Hospital in Nigeria at independence in 1960 is the University College Hospital (UCH) Ibadan created in 1957. Presently, there is additional 3 other teaching hospitals in the state. Oyo State currently has 33 Secondary Health Care Facility and 707 Primary Health Care Facility.

This study is set to evaluate the health workers knowledge and practice of PMTCT services documentation. New findings from the study will be a pointer to how to improve PMTCT services documentation in Nigeria and will help key public health stakeholders in making quality decision needed to improve health in Nigeria.

The broad objective of the study was to determine (assess) the knowledge and practice of PMTCT documentation among health workers.

- To assess the knowledge of health workers about PMTCT services documentation.
- To explore the practices in health workers regarding PMTCT services documentation.
- To come up with recommendations.

## **Literature review**

There is paucity of literature review on the assessment of knowledge and practices of PMTCT documentation in Nigeria. However, there are few literatures on similar subject. A study on knowledge and practice of prevention of mother to child transmission of HIV among traditional birth attendants (TBAs) in Lagos State Nigeria was conducted by Balogun and Odeyemi in 2010(Balogun & Odeyemi, 2010). It was concluded that most of the TBAs did not have adequate knowledge and practice of PMTCT illustrating the need for periodic PMTCT training for TBAs. Another study by Owoaje, Omidokun and Ige in 2012on knowledge and perception of prevention of mother to child services amongst pregnant women accessing antenatal clinic in a Primary Health Care centre in Nigeria. It was inferred from the study that women in the survey were very knowledgeable about the methods of PMTCT but had negative perceptions regarding certain aspects of the HCT services (Owoaje, Omidokun & Ige, 2012).

Monitoring and Evaluation (M&E) is an essential component of the activities of PMTCT programme because knowledge derived from it can be used to demonstrate to the programme planners and policy makers that the programme efforts had measurable impacts on the expected outcome (Amazoncom, 2016).

Currently few high-prevalence countries have country-level monitoring of PMTCT ongoing globally with few knowledgeable people with the require skills in PMTCT services and documentation. Closing this public health knowledge gap is critical to global success in the fight against mother to child transmission of HIV which can only be achieved through building of international consensus around PMTCT effectiveness monitoring.

## **Methodology**

### **Study type**

Observational study (Cross- sectional descriptive study) was used and it involved data collection, or a representative subset, at one specific point in time (Schmidt & Kohlmann, 2008). This study involved the assessment of the knowledge and practice of Prevention of Mother to Child Transmission of HIV documentation among Health Workers in primary, secondary and tertiary health facilities in Oyo State through administration of a questionnaire.

### **Study setting**

The study was conductedat 113 Health Facilities in 23 Local Government Areas of Oyo State.

### **Study population**

The study population was all Health Workers who have been trained on PMTCT documentation in selected PMTCT provider facilities in Oyo State.

### **Sample size calculation for respondents**

Minimum sample size was determined by using the formula for calculating sample size for estimating the prevalence of a knowledge, disease or health condition in a population.

$$N = (Z_{1-\alpha} / \delta)^2 \times p (1-p)$$

$N$  = Minimum sample size

$Z_{1-\alpha}$  = Confidence coefficient = 1.96

$d$  = Width of the interval

$P$  = Prevalence in a population. “ $P$ ” is assumed to be 50% since the prevalence of usage of PMTCT documentation tools in any previous studies was not known (Mirkuzie, 2008). Thus,

$$N = (1.96/0.05)^2 (0.50 \times 0.50)$$

$$= 384$$

With assumption of 10% refusal rate among the selected respondents, we expect a minimum sample size of 400 for more robust analysis.

**Sampling frame:** The 33 Local Government Areas in the 3 Senatorial Areas was used as the sampling frame.

**Sampling procedure:** A multi-stage sampling technique was used for the selection of respondents. The first stage was the selection of Local Government Areas (LGAs) from the three senatorial districts in the state. A random sampling method was used to select 23 Local Government Areas (LGAs) from the thirty- three (33) LGAs in Oyo State. The second stage involved the selection of health facilities from the selected LGAs. 113 Health Facilities were selected by taking into consideration those in Urban and Rural settings and on the different types of program the site is executing. Two to nine facilities was randomly selected in each of the Local Government Area to accommodate the large sample size required for this study. The third stage involved the selection of respondents from the health facilities. Health Care Workers trained on PMTCT documentation in all the selected facilities was identified and administered with questionnaire.

### **Data collection methods**

A closed ended questionnaire was designed in English through review of literature and was pre-tested among health workers in a hospital that was not part of the selected facilities by me. Trainings on data collection were done for the LACA Managers who were involved in the administration of the questionnaire on health workers in the selected facilities using a facilitated self-administered method. This was done in order to check if the questions were being understood by the respondents.

### **Data collection and analysis**

After the administration of questionnaires on the respondents, the quantitative data obtained were entered and analysed using SPSS. Univariate and bivariate analysis were carried out as appropriate. Initial analysis was done by generating frequency tables while further analysis was done to explore statistical association between variables. Appropriate bivariate analysis such as chi-square was carried out to assess statistical association depending on the type or nature of the variable. Descriptive statistics was used to describe distribution of individual characteristics.

### **Ethical considerations**

This study followed the ethical principles guiding the use of human respondents in research. Written informed consent was obtained from the participants. Permission to carry out this study was also sought from Oyo State Ministry of Health Ethical Research Committee.

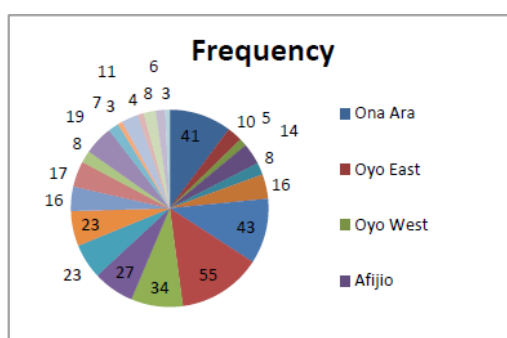
## **Results**

### **Description of the study respondents**

A total of 113 health facilities both private and public health facility in 23 local government areas were involved in the study. Table 2 revealed that Ibadan North 55 (13.7%) has the highest number of the respondents and Ibadan South East 43 (10.7%), and the lowest respondents were from Egbeda and Ogbomosho South both with frequency of 3 (.7%).

**Table 2.** Number of Respondents per Local Government Areas in Oyo State

Local Government	Frequency	Percent
Ona Ara	41	10.2
Oyo East	10	2.5
Oyo West	5	1.2
Afijio	14	3.5
Atiba	8	2.0
Itesiwaju	16	4.0
Ibadan South East	43	10.7
Ibadan North	55	13.7
Ogbomoso North	34	8.5
Saki West	27	6.7
Ibarapa East	23	5.7
Lagelu	23	5.7
Akinyele	16	4.0
Ibarapa South	17	4.2
West		
Ibadan North East	8	2.0
Ibadan North	19	4.7
West		
Ibarapa North	7	1.7
Egbeda	3	.7
Ibarapa Central	11	2.7
Surulere	4	1.0
Oluyole	8	2.0
Ido	6	1.5
Ogbomoso South	3	.7
Total	401	100.0



**Figure 1.** Frequency of Respondents per Local Government Areas

**Table 2.1** Social demographic characteristics of the respondents

Biodata	Items	Frequency	Percent
Type of facility	public facility	378	94.3
	private facility	23	5.7
Age	≤20years	4	1.0
	21-30years	68	17.0
	31-40years	141	35.2
	41-50years	143	35.7
	51-60years	42	10.5

	61years and above	3	.7
<b>Sex</b>	female	334	83.3
	Male	67	16.7
<b>Religion</b>	Christianity	310	77.3
	Islam	90	22.4
	Traditional	1	.2
<b>Ethnicity</b>	Yoruba	391	97.5
	Igbo	4	1.0
	Hausa	1	.2
	Edo	4	1.0
	Urhobo	1	.2
<b>Designation in the facility</b>	Record Officer	78	19.5
	CHEW	93	23.2
	CHO	66	16.5
	Nurse/Midwife	112	27.9
	health Assistant	21	5.2
	Laboratory Staff	10	2.5
	Doctor	9	2.2
	Public Health Officer	8	2.0
	Pharmacist	4	1.0
	Total	401	100.0

Table 2.1 depicts socio-demographic characteristics of the respondents. A total of 334(83.3%) of the female and 67(16.7%) of the male aged between 18 and 64years were interviewed. The results obtained showed that the highest respondents 143 (35.7%) fell between the age range of 31 and 40 years and lowest age of respondents 3 (0.7%) were 61 years and above. The mean age was 40years ( $\pm 8.71$ ). Two health facility were also considered in the study, it was observed that the highest 378(94.3%) of the public facility were visited and data collected while the lowest 23(5.7%) were the private facility. Christianity 310(77.3%) was the major religion of the respondents. The tribe with the highest distribution was Yoruba 391(97.5%) while the lowest is Urhobo 1(0.2%).

Also most of the respondents were Nurse/Midwife 112(27.9%), Community Health Extension Workers 93(23.2%) and Record Officers 78(19.5%) while the least was pharmacist 4(1%).

**Table 2.2.** Information about PMTCT

Items	Responses	Frequency	Percent
<b>Facility a PMTCT site</b>	No	26	6.5
	Yes	375	93.5
<b>PMTCT testing approach</b>	opt-in	133	35.47
	opt-out	242	64.53
	Total	375	100.0

From the study, highest number of respondents 375(93.5%) said their facility is a PMTCT center while lowest number of respondents 26(6.5%) said their facility is not a PMCT center. 242(64.53%) of the respondents said their facility adopted opt-out approach while 133(35.47%) adopted opt-in-approach in PMTCT HIV testing in their facilities respectively.

**Table 2.3.** Knowledge about PMTCT tools among the respondents

Items	Responses	Frequency	Percent
<b>Understanding of PMTCT</b>	prevent mum to child transfer	2	.5
	prevention of mother to child transmission of HIV	383	95.5
	Post maternal to child transfer		
	Prevent mother to children transfer		
	preventing mother to child transmission	16	4.0
<b>The use of current general ANC register</b>	No	26	6.48
	Yes	375	93.51
<b>The use of current national standard separate PMTCT HIV counseling and testing register</b>	No	33	8.2
	Yes	368	91.8
<b>The use of current PMTCT monthly summary reporting form</b>	this type of register is not in use at the site		
	No	24	6.0
<b>The date for the submission of monthly report to APIN/SACA</b>	Yes	377	94.0
	5th to 7th subsequent month	283	70.6
	on the 30th of every month	46	11.5
	on the 1st of new month	72	18.0
	Total	401	100.0

The study showed the respondents comprehensive knowledge of PMTCT tools. Of the respondents, 383(95.5%) knew the full meaning of PMTCT while the rest gave wrong meaning. It was inferred from the study that majority of the respondents knew the meaning of PMTCT. 375(93.51%) of the respondents claimed that they use current general ANC register, 368(91.8%) of the respondents responded that they use current national standard separate PMTCT HIV counseling and testing register, 377(94%) of the respondents said they use current PMTCT monthly summary reporting form. In addition, 283(70.6%) of the respondents claimed that they do submit monthly report to AIDS Prevention Initiative In Nigeria/State Action Committee on AIDS (APIN/SACA) between 5th to 7th subsequent month, 46(11.5%) of them said they do submit the report on the 30th of every month whereas 72(18%) of them claimed that they do submit the report on the 1<sup>st</sup> (first) of new month.

**Table 2.4.** Practices of PMTCT Data Documentation

Items	Responses	Frequency	%
The request and result form are the tool used to inform and seek consent of patients for testing	No	40	10.0
	Yes	361	90.0
Recording the number of pregnant women who receive voluntary HIV counseling and testing for PMTCT	No	26	6.48
	Yes	375	93.52
Where information is recorded	in the general ANC patient register	90	22.44
	in the PMTCT counseling and testing register	277	69.1
	Both Registers	8	2.0

Pregnant women had known she is HIV positive upon presenting at her first ANC visit is still given an HIV test for PMTCT	No	187	46.6
	Yes	214	53.4
What is recorded in the pregnant woman's HIV-test result field in the relevant register?	Positive	18	9.63
	known positive	169	90.37
Is PMTCT HIV testing done at this site or outside (offsite) your site	at this site	362	90.62
	off-site	39	9.73
Where is off-site PMTCT HIV testing done?	off-site laboratory	19	48.72
	care and treatment center	5	12.82
	VCT site	15	38.46
A pregnant women referred to an off-site location for PMTCT HIV testing, will do her HIV testing	always on the same day	35	89.74
	sometimes on the same day	3	7.69
	rarely on the same day	1	2.56
How the results of off-site PMTCT HIV testing physically returned to the facility	returned by the testing site	33	84.62
	returned by the pregnant woman	6	15.38
Total		401	100.0

From the study 361(90%) of the respondents claimed that the request and result form are the tools they are using to inform and seek consent of patients for testing while the rest doesn't use inform and consent form. 375(93.52) of the respondents record the number of pregnant women who receive voluntary HIV counseling and testing for PMTCT while 26(6.48%) don't document. 90(22.44%) of the respondents recorded the information on those who receive voluntary HIV counseling and testing for PMTCT in the general ANC patient register, 277(69.1%) of the respondents recorded in the PMTCT counseling and testing register while 8(2%) of the respondents recorded in both registers.

214(53.4%) of the respondents claimed that Pregnant women who had known that she is HIV positive upon presenting at her first ANC visit is still given HIV test for PMTCT while 187(46.6%) of them don't do another HIV test.

Highest number of respondents 169(90.37%) wrongly recorded known positive in the pregnant woman's HIV-test result field in the relevant register while lowest number of respondents correctly recorded known positive pregnant women in the previously known HIV positive pregnant woman's HIV-test result field in the relevant register.

362(90.27%) of the respondents said PMTCT HIV testing is done at their site while others are not a PMTCT HIV testing site. 19(48.72%) of respondents who do offsite testing reported that off-site testing is done at off-site laboratory while 15(38.46%) of the respondents reported that off-site PMTCT testing is done at the voluntary counseling and testing (VCT) site

Highest number of respondents 35(89.74%) said that pregnant women who is referred to an off-site location for PMTCT HIV testing will do HIV testing always on the same day while the lowest 1(2.65%) of the respondents said pregnant women referred to an off-site location for PMTCT HIV testing, will do HIV testing rarely on the same day.

The study also showed that 33(84.62%) of the respondents claimed that the results of off-site PMTCT HIV testing physically returned to the facility by testing site while 6(15.38%) of them reported that it would be returned by the pregnant woman.



**Table 2.5.** Practices of PMTCT Data Documentation

Items	Responses	Frequency	%
When are off-site PMTCT HIV test results physically returned to this facility?	always on the same day than pregnant woman is referred for testing	32	82.05
	sometimes on the same day that a pregnant woman is referred for testing	6	15.38
	rarely on the same day a pregnant is referred for testing	1	2.57
What is the PMTCT HIV algorithm for your site rapid testing	sometimes test	271	67.6
	confirmatory test	21	5.2
	tie breaker test	10	2.5
	sometimes and confirmatory tests	32	8.0
	sometimes and tie breaker tests	1	.2
Time when HIV test kits were unavailable due to stock-out in the past 12months	No	312	83.2
	Yes	63	16.8
Pregnant women pay for PMTCT HIV testing services in the past 12months	No	362	96.53
	yes	13	3.47
Syphilis testing is done at this site	No	318	79.3
	Yes	83	20.7
	Total	401	100.0

From the study, 32(82.05%) of the respondents said off-site PMTCT HIV test results are physically returned to their facility always on the same day that pregnant woman is referred for testing whereas 1(2.57%) of the respondents said off-site PMTCT HIV test results are physically returned to their facility rarely on the same day a pregnant is referred for testing. Also 271(67.6%) of the respondents said that the PMTCT HIV algorithm for their site rapid testing is screening test while 66(16.5%) of them said it was screening, confirmatory and tie breaker tests that must be used.

In addition, in the last twelve months at the time of this study 312(83.2%) of the respondents said there was no stock out of HIV test kits while 63(16.8%) said there was stock out. It was also observed that highest 362(96.53%) of respondents said pregnant women don't pay for HIV testing services while lowest 13(3.47%) of the respondents said that Pregnant women pay for it. Most of the respondents 318(79.3%) claimed that Syphilis testing is not done at their sites.

**Table 2.6.** Showing association between socio-demographic characteristics (Type of Facility and Age) and knowledge about PMCT tools

Type of Facility	Understanding of PMTCT				Total	$\chi^2$	df	p-value
	Prevent mum to child transfer	Prevention of mother to child transmission of HIV	Prevent mother to child transmission					
Public Facility	1(.2%)	362(90.3%)	15(3.7%)		378(94.3%)			
Private Facility	1(.2%)	21(5.2%)	1(.2%)		23(5.7%)	7.301	2	0.026
Total	2(.5%)	383(95.5%)	16(4.0%)		401(100.0%)			
Age								
≤20years	0(.0%)	4(1.0%)	0(.0%)		4(1.0%)			
21-30years	0(.0%)	66(16.5%)	2(.5%)		68(17.0%)			
31-40years	2(.5%)	134(33.4%)	5(1.2%)		141(35.2%)			
41-50years	0(.0%)	136(33.9%)	7(1.7%)		143(35.7%)	4.619	10	.915
51-60years	0(.0%)	40(10.0%)	2(.5%)		42(10.5%)			
61years and above	0(.0%)	3(.7%)	0(.0%)		3(.7%)			
Total	2(.5%)	383(95.5%)	16(4.0%)		401(100.0%)			

The result in table 2.6 showed a significant ( $P < 0.05$ ) association between the type of facility and knowledge about PMTCT tools. However, there is no significant ( $P > 0.05$ ) association between the Age and knowledge about PMTCT tools.

**Table 2.7.** Association between socio-demographic characteristics (Sex and Designation) and knowledge about PMCT tools

Sex	Understanding of PMTCT			Total	$\chi^2$	df	p-value
	Prevent mum to child transfer	Prevention of mother to child transmission of HIV	Prevent mother to child transmission				
Male	1(.2%)	65(16.2%)	1(.2%)	67(16.7%)			
Female	1(.2%)	318(79.3%)	15(3.7%)	334(83.3%)	2.869	2	.238
Total	2(.5%)	383(95.5%)	16(4.0%)	401(100.0%)			
Designation in the Facility							
Record Officer	0(.0%)	76(19.0%)	2(.5%)	78(19.5%)			
CHEW	1(.2%)	84(20.9%)	8(2.0%)	93(23.2%)			
CHO	0(.0%)	63(15.7%)	3(.7%)	66(16.5%)			
Nurse/Midwife	0(.0%)	111(27.7%)	1(.2%)	112(27.9%)	33.969	16	.005
Health Assistant	0(.0%)	19(4.7%)	2(.5%)	21(5.2%)			
Laboratory Staff	0(.0%)	10(2.5%)	0(.0%)	10(2.5%)			
Doctor	1(.2%)	8(2.0%)	0(.0%)	9(2.2%)			
Public Health Officer	0(.0%)	8(2.0%)	0(.0%)	8(2.0%)			
Pharmacist	0(.0%)	4(1.0%)	0(.0%)	4(1.0%)			
Total	2(.5%)	383(95.5%)	16(4.0%)	401(100.0%)			

The result in table 2.7 showed that there is no significant ( $P>0.05$ ) association between sex and knowledge about PMTCT tools. In addition, there is a significant ( $P>0.05$ ) association between designation in the facility and knowledge about PMTCT tools.

**Table 2.8.** Association between socio-demographic characteristics (Type of facility and Age) and practices of PMTCT data documentation

Type of Facility	Record the number of pregnant women who receive voluntary HIV counseling and testing for PMTCT		Total	$\chi^2$	df	p-value
	No	Yes				
Public Facility	8(2.0%)	370(92.3%)	378(94.3%)			
Private Facility	2(.5%)	21(5.2%)	23(5.7%)	3.860	1	.049
Total	10(2.5%)	391(97.5%)	401(100%)			
<b>Age</b>						
≤20years	0(.0%)	4(1.0%)	4(1.0%)			
21-30years	1(.2%)	67(16.7%)	68(17.0%)			
31-40years	5(1.2%)	136(33.9%)	141(35.2%)	1.208	5	.944
41-50years	3(.7%)	140(34.9%)	143(35.7%)			
51-60years	1(.2%)	41(10.2%)	42(10.5%)			
61years and above	0(.0%)	3(.7%)	3(.7%)			
Total	10(2.5%)	391(97.5%)	401(100.0%)			

The result in table 2.8 showed significant ( $P<0.05$ ) association between the type of facility and practices of PMTCT data of documentation. In addition, there is no significant ( $P>0.05$ ) between Age and practices of PMTCT data documentation.

**Table 2.9.** Association between socio-demographic characteristics (Type of facility and Age) and practices of PMTCT data documentation

Sex	Record the number of pregnant women who receive voluntary HIV counseling and testing for PMTCT		Total	$\chi^2$	df	p-value
	No	Yes				
Male	1(.2%)	66(16.5%)	67(16.7%)			
Female	9(2.2%)	325(81.0%)	334(83.3%)	.332	1	.565
Total	10(2.5%)	391(97.5%)	401(100.0%)			
Designation in the Facility						
Record Officer	3(.7%)	75(18.7%)	78(19.5%)			
CHEW	2(.5%)	91(22.7%)	93(23.2%)			
CHO	1(.2%)	65(16.2%)	66(16.5%)			

Nurse/Midwife	2(.5%)	110(27.4%)	112(27.9%)			
Health Assistant	1(.2%)	20(5.0%)	21(5.2%)	4.878	8	.771
Laboratory Staff	0(.0%)	10(2.5%)	10(2.5%)			
Doctor	1(.2%)	8(2.0%)	9(2.2%)			
Public Health Officer	0(.0%)	8(2.0%)	8(2.0%)			
Pharmacist	0(.0%)	4(1.0%)	4(1.0%)			
Total	10(2.5%)	391(97.5%)	401(100.0%)			

The result in table 2.9 showed that there is no significant ( $P>0.05$ ) association between Sex & designation in the facility and practices of PMTCT data documentation.

## Discussion

Prevention of mother to child transmission of HIV is critical to saving lives hence there is a need for evidence based data to feed back into program implementation in order to make necessary policy and decision. To achieve this, Record Officers must have up to date information on documentation. This study focused on determining knowledge and practices of PMTCT documentation; assessing the accuracy and completeness of PMTCT data and determining the effect of training on knowledge and documentation of PMTCT.

Most of the respondents were female Christians and mainly Yoruba by tribe with mean age of 40years. The highest contributing facilities were from public facility offering PMTCT services and the designations most common among respondents are Nurse/Midwife and Community Health Extension Workers. This can be justified as most of the facilities selected are PMTCT centres where Nurse/Midwife and Community Health Extension worker is domicile. In addition, many of the respondents adopted opt-out approach in PMTCT HIV testing in their facilities (WHO, 2007). This agreed with the World Health Organization where tests would have to be offered on opt-out basis to increase the provision of HIV testing. With opt-out approach, individuals must specifically decline the HIV test after receiving pre-test information if they do not want the test to be performed (WHO, 2007). Nigeria has also adopted the opt-out strategy as part of basic care for antenatal clinic clients, all patients with tuberculosis, sexually transmitted infections and HIV-related diseases (NASCP, 2014). Most of the respondents also have good knowledge of PMTCT tools and are quite aware of the current National tools used for PMTCT services documentation. The study revealed that majority of the respondents submits their monthly report within the stipulated 5<sup>th</sup> – 7<sup>th</sup> of subsequent month and therefore complied timeliness of data reporting.

On practices of PMTCT data documentation, most of the respondents carried out effective documentation using appropriate documentation tools. However, pregnant women with previously known HIV positive status are still re-screened upon presenting at her first Antenatal Care visit. However, majority of the respondents still documented known positive pregnant women in the wrong register. PMTCT HIV testing is always done on the same day by most of the facility while the result of offsite testing is physically returned to the facility by the testing site. This observation is consistent with previous work on new, highly sensitive and specific antibody-based rapid HIV testing, same day results have become possible (WHO, 2007, Jurgens, Cohen & Beyrer and Swamy, 2007). The respondents are quite aware of PMTCT HIV algorithm for their site rapid testing, but there is limited knowledge on serial testing which is the use of two screening tests employed sequentially to test for HIV antibody and discordant results in the two tests are subjected to further testing (WHO, 2007). Most of the respondents have sound knowledge of logistics management system as there is no stock out of test kits in many of the facilities involved in this study. However, most of the respondents claimed that Syphilis testing is currently not done in their facility.

## Conclusion

The result of the study showed that most of the respondents have good knowledge of PMTCT documentation, but their level of knowledge is affected by the types of facility and the designation of their health workers. Staff working in public facility has a better understanding of PMTCT documentation than those in private facility. This assertion may be justified by the fact that highly skill personnel are recruited to the facility and they are exposed to more capacity building opportunities. However, private facility will benefit tremendously from further training on documentation. In addition, the study also shows that respondents have fair knowledge on PMTCT HIV testing but has limited understanding on the types of screening techniques to use. Therefore, seminars and trainings should be regularly organized on serial HIV testing.

## Recommendations

In view of the findings from the study, there is an urgent need to ensure regular validation of PMTCT data collected from all the health facilities. Re-training of all health workers on current monitoring and evaluation tools used in capturing PMTCT data is very necessary in addition to regular monitoring and supervisory visit to all the health facilities. Also simplified data collecting systems or the use of sophisticated electronic data validation systems to provide a reliable data must be encouraged in all the facility. Further research on the knowledge and practice of documentation of HIV counseling and testing and ART treatment and care given to HIV positive patients are recommended as a follow up to the findings of this study. The findings from such a research will help in the generation of useful information that can be used for making judgement by policy makers to improve HIV program services delivery in the state.

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