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Availability and Utilization of PMTCT Services in Primary Health Care Centres of Jos South, North-Central Nigeria

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Abstract: **Mother-to-child transmission of HIV significantly contributes to new infections globally. Universal access to comprehensive services for the prevention of mother-to-child transmission (PMTCT) of HIV is vital to curbing this trend. This study assessed the availability and utilization of PMTCT services in Primary Health Care centres of Jos South local government area, Plateau State, North-Central Nigeria. A desk review of facility records was conducted in 2020. Data was collected on PMTCT services availability and utilization using observational and review of records checklist adapted from the World Health Organization's PMTCT services checklist instrument. Data was analyzed using IBM-SPSS version 23 software. Thirty-six Primary Health Care centres in Jos South were surveyed, of which only 14 (38.9%) offered PMTCT services. Four thousand six hundred and sixty-one (85%) women accessing antenatal care in the 14 facilities offering PMTCT services underwent HIV testing and 45 (0.8%) tested positive. Twenty-seven (60%) of those who tested positive had optimal utilization of PMTCT services as they received all the basic components of the services. The availability of PMTCT services was low while the utilization among those reached was suboptimal. There is a need to scale up PMTCT services and make available a comprehensive package in all health facilities.**

Keywords: **Availability, Utilization, PMTCT, Primary Health Care Centre.**

1. INTRODUCTION

Mother-to-child transmission (MTCT) of HIV accounts for over 90% of new infections in children, 15% to 45% of infants born to HIV-infected mothers may become infected in the absence of preventive interventions such as antiretroviral therapy (ART) for the mother and antiretroviral (ARV) -prophylaxis for the baby [1],[2]. Worldwide, over 1.2 million new-borns are exposed to HIV yearly [3], while an estimated 90% of MTCT of HIV globally occurs in Sub-Saharan Africa (SSA) [4],[5]. Numerous countries have recorded success in the elimination of MTCT, however, none is in SSA – the region with the largest burden of MTCT [6]. Nigeria has the highest burden of new HIV infections occurring in children and MTCT accounts for 1 in 5 of all new infections in the country [7].

The prevention of mother-to-child transmission of HIV (PMTCT) services comprises interventions aimed at ensuring the survival of women of childbearing age and their newborns against HIV. It includes HIV testing during pregnancy, access to ART for the mother, safe childbirth practices, ARV prophylaxis for the newborn, appropriate infant feeding, and early infant diagnosis of HIV infection [8]. Widespread coverage of PMTCT services is critical to the elimination of MTCT of HIV [5]. Although global PMTCT services coverage has grown dramatically to over 80%, the pace of the rise in coverage has slowed over the past decade. As a result, a significant number of pregnant and breastfeeding women living with HIV are not ART [3], [4], [5], [6]. More so, there is a slow decline in the MTCT of HIV, so reaching the 2025 deadline of the 95-95-95 target is going to be a long haul.

Although the West and Central African region is home to about 20% of pregnant women living with HIV worldwide, it accounts for more than half (52%) of HIV-infected pregnant women not on ART [3].

Declining PMTCT services coverage in Nigeria has resulted in a rise in new HIV infections occurring in children [7]. Nigeria leads among the seven nations accounting for 50% of all new paediatric HIV infections occurring globally – one in seven new HIV infections among children worldwide occurs in Nigeria [9]. More so, Nigeria accounts for about one in every four pregnant women living with HIV worldwide who are not on ART [9].

Plateau State ranks third in Nigeria for unmet need for PMTCT services and about 25% of new HIV infections in the state are because of MTCT [7]. A review of PMTCT services provision in the state would be an essential step in scaling up the services to meet the demand adequately, it would provide valuable information to guide interventions. This study assessed the availability and utilization of PMTCT services in Primary Health Care centres (PHCs) of Jos South, Plateau State, North Central Nigeria.

2. METHODOLOGY

The study was conducted in Jos South, one of the 17 local government areas (LGAs) of Plateau State, North-Central Nigeria. Jos South LGA is a predominantly urban area well-served with health, educational, social, and physical infrastructures.

There are 81 health facilities in Jos South, of which 44 are PHCs [10]. Only 36 of the PHCs were functional during this study. The average antenatal care (ANC) enrolment in Plateau State is 55.1% comparable to the national average of 56.8% [11].

A desk review of facility records on PMTCT services was conducted in January 2020. The study was conducted across the 36 functional PHCs in Jos South LGA. A total population enumeration of the PHCs was conducted.

Data was collected using an observation and record review checklist adapted from the PMTCT services checklist instrument developed by the World Health Organization for monitoring and evaluation of HIV/AIDS care and support [12]. The checklist comprised sections on sociodemographic information of ANC clients, facility characteristics, availability, and utilization of PMTCT services. PMTCT availability and utilization covered the following basic components: HIV counselling and testing, family planning services, ARV prophylaxis and treatment, and infant feeding counselling.

Data was analyzed using IBM-SPSS version 23 software. Descriptive statistics using frequencies and proportion was used to express PMTCT services availability and utilization.

Permission to use existing facility data was obtained from the Plateau State Ministry of Health with reference number – MOH/MIS/202/VOL.T/X.

3. RESULTS

A total of 5481 women registered for ANC in the year under review (2019). A majority, 4496 (96.5%), were married while secondary and tertiary level education was reported by 1976 (42.4%) and 460 (9.9%) respectively. **(Table I)**.

Table I: Sociodemographic details of women attending ANC (n = 5481).

Characteristic	Frequency	%
Age group (years)		
≤19	484	10.4
20-29	1763	37.8
30-39	1687	36.2
40-49	727	15.6
Educational status		
No formal education	745	16.0
Primary	1480	31.7
Secondary	1976	42.4
Tertiary	460	9.9
Employment status		
Skilled	3669	78.7
Unskilled	992	21.3

Marital status		
Single	45	1.0
Married	4496	96.5
Divorced	100	2.1
Separated	20	0.4

Most of the PHCs surveyed lacked the national guidelines for PMTCT services, 26 (72.2%), and did not have a PMTCT provider who was trained in the two years preceding the study, 25 (69.4%). **(Table II).**

Table II: Health facility characteristics (n = 36).

Characteristic	Frequency	%
Cadre of staff available		
Nurses	16	44.4
Midwives	13	36.1
Laboratory technicians/assistants	21	58.3
Community health workers	33	91.7
In-patient beds		
Present	18	50.0
Absent	18	50.0
Maternity beds		
Present	17	47.2
Absent	19	52.8
Average operation hours per day		
≤ 8	12	33.3
≥ 9	24	66.7
PMTCT provider training in the last 2 years		
Yes	11	30.6
No	25	69.4
National guidelines for PMTCT		
Present and sighted	9	25.0
Present but not sighted	1	2.8
Absent	26	72.2

HIV counseling and testing were being provided in 14 (38.9%) facilities while ART and ARV prophylaxis were available in only 7 (19.4%) facilities. Only 6 (16.7%) facilities provided all the basic components of PMTCT services. **(Table III).**

Table III: Availability of PMTCT services in the health facilities (n = 36).

Component	Frequency	%
HCT		
Yes	14	38.9
No	22	61.1
ART and ARV prophylaxis		
Available	7	19.4
Not available	29	80.6
Infant feeding counselling		
Yes	11	30.6
No	25	69.4
Family planning counselling		
Yes	19	52.8
No	17	47.2
All components available		
Yes	6	16.7
No	30	83.3

HCT = HIV Counselling and Testing

Most of the women underwent HIV testing, 4661 (85%), out of which 45 (0.8%) were found to be positive. Only 27 (60%) of those who tested positive received all the basic components of PMTCT services. (**Table IV**).

Table IV: Utilization of PMTCT services in the health facilities.

Parameter	Frequency	%
Women counselled and tested (n = 5481)		
Yes	4661	85.0
No	820	15.0
HIV testing result (n = 4661)		
Positive	45	0.8
Negative	4616	99.2
Received all basic components of PMTCT services (n = 45)		
Yes	27	60.0
No	18	40.0

4. DISCUSSION

This study assessed the availability and utilization of PMTCT Services in PHCs in Jos South LGA of Plateau State, North-Central Nigeria.

Universal access to PMTCT services is vital to ending the AIDS pandemic as it will eliminate a significant proportion of all new HIV infections [13]. We found PMTCT services coverage of 38.9% which was higher than Plateau States's pooled average of 8.5% previously reported by Envuladu et al in 2014 [14]. The coverage is low and far from the global target of 90% [15]. This finding may be a reflection of progress from the new global commitments and targets for scaling up HIV treatment that came into effect following the 2015 deadline for previous targets. One of the targets was to end the AIDS pandemic by making HIV treatment accessible to at least 90% of persons living with HIV, including pregnant women, by the year 2020 [16]. Secondly, Jos South LGA is one of the only two urban LGAs in the state and has more equipped and manned PHCs than the aggregate of all the LGAs. Our finding is comparable with the national average (35%) reported by Ikpeazu et al in 2020 [17]. On the contrary, a similar study in Lagos, North-Western Nigeria reported the availability of PMTCT services in all the PHCs evaluated and unlike our study, the study found requisite manpower in all the facilities [18]. The poor availability of PMTCT services we observed implies a tendency for missed opportunities to prevent MTCT of HIV and ensure the well-being of HIV-infected pregnant women. It is unclear why most of the PHCs in our study did not offer PMTCT services, which calls for further investigation through future studies. Nonetheless, it may be attributed to the lack of skilled personnel for delivering PMTCT services in most of the facilities.

Consistent with previous studies [14]·[17]·[19][20], we observed a high uptake of HIV testing although it fell short of the 90% target earmarked for the period this study was conducted (2015-2020) [16]. A high testing rate is expected for this category of ANC attendees who are urban-dwellers and mostly educated, this supports a previous finding of association between uptake of HIV testing and these variables [20]. However, our attribution of the high HIV testing rate to the predominance of high educational attainment and urban residence is done cautiously because it is subject to ecological fallacy as the data we obtained were aggregates and not amenable to statistical analysis that can establish the link. The high HIV testing rate recorded can also be ascribed to the practice of provider-initiated testing during ANC in line with the opt-out strategy; clients are told to undergo HIV testing as part of the routine investigations for ANC which makes it difficult to decline [21].

We observed a low (0.8%) and comparable HIV positivity rate [17]·[19]. This suggests a decline from the 5.7% pooled average reported in 2014 for all PHCs in the state [14], and is in keeping with the declining trend of national HIV prevalence among pregnant women [22]. The prevalence of HIV found in this study may not be generalizable to all pregnant women in the LGA as ANC attendance is generally poor (55%) in Plateau State [11].

Our study revealed that many infected mothers did not receive all the needed components of PMTCT services. In contrast, studies in similar low-resource settings reported very high utilization rates of PMTCT services [14]·[17]·[19]·[23]. Our finding gives credence to a previous report that only a few PHCs in Plateau state provided comprehensive PMTCT services,

most of the infected pregnant women required referral to secondary-level facilities for care [14]. Referral to a distant health facility may incur additional out-of-pocket healthcare expenditure – such as transportation – and in turn, adversely affect adherence to treatment and retention in care through poor compliance with routine clinic appointments.

Our study is not without limitations. The data extracted from the facility records were pooled data, so it was not feasible to statistically explore links between the characteristics of the ANC attendees and the utilization of PMTCT services. The secondary nature of the data meant it limited the choice of study variables and lacked some information of interest such as reproductive history, income level, and partner's educational level. More so, the data was prone to inaccuracies from inadequate documentation.

5. CONCLUSION

There was a low availability of PMTCT services in PHCs of Jos South LGA and the utilization among those reached was suboptimal. This calls for the urgent need by government and healthcare administrators to scale up the availability and range of PMTCT services to fulfil unmet needs for these services in Jos South LGA.

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