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## RESEARCH PAPER

### UTILIZATION PATTERN OF MATERNAL HEALTH SERVICES IN THE PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV/AIDS IN NIGERIA

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## ABSTRACT

Though prevention of mother to child transmission (PMTCT) of HIV/AIDS was introduced in Nigeria in 2002, it is pertinent to determine its availability in the primary health centers, which provide the most available, accessible and affordable maternal health services to 70% of Nigerian women. This retrospective study was carried out to determine the utilization pattern of maternal health services in Nigeria, noting the availability of PMTCT. Records of antenatal bookings, deliveries, postnatal visits, voluntary counseling and testing (VCT) and PMTCT were obtained from 30 randomly selected primary health centers in Edo Central Senatorial District of Nigeria and analyzed. The results showed that though a yearly average of 2719 women booked in the antenatal clinics of the selected primary health centers, and 50.57% of these women delivered in these centers between 2007 and 2010, neither VCT nor PMTCT was available. It is therefore suggested that all tiers of government in Nigeria and donors, should include Primary health centers in their distribution channels in order to reduce the scourge of HIV/AIDS on innocent children.

**Keywords: Maternal Health, Utilization, VCT, PMTCT, Nigeria**

## INTRODUCTION

Nigeria, the most populous country in Africa, with an estimated population of 149 million, has an HIV prevalence rate of 3.6% (UNGASS. 2010). This implies that not less than five million people are living with HIV/AIDS in Nigeria. This number is comparable to or more than those of some African countries, such as South Africa or Botswana where the prevalence is much higher (UNGASS. 2010). The prevalence rates in Nigeria are usually based on rates in antenatal patients, who are offered Voluntary Counseling and Testing (VCT) in most public hospitals with the aim of preventing mother to child transmission (PMTCT) of HIV/AIDS (UNGASS. 2010).

Mother to Child transmission of HIV/AIDS is one of the three major routes of HIV/AIDS transmissions in Nigeria. It has been said that 57,000 babies are born with HIV each year and 220,000 children are living with AIDS in Nigeria (UNGASS. 2010). The reliability of these figures is dependent on the proportion of pregnant women who booked in tertiary/district hospitals, deliver and attend postnatal/follow-up clinics in these hospitals.

Primary health care is the first contact between individuals and modern health care (ICPHC 1978). For most rural dwellers, which constitute 70% of the Nigerian population, the only available, accessible and affordable health facility, is the primary health care center. Hence, there is a need to know the proportion of these figures derived from primary health care centers. This study therefore, was designed to assess the utilization of maternal health services including PMTCT in Nigerian primary health centers.

## MATERIALS AND METHODS

**Ethical Clearance:** Ethical clearance was obtained from the Department of Research and Statistics, Ministry of Health, Benin City, Edo State, Nigeria. Informed consent was obtained from all participants in this study.

**Research Design:** This is a retrospective study on the maternal health services at primary health care centers of Edo Central Senatorial District of Nigeria using records of antenatal bookings, treatments, maternity services and PMTCT services between 2007 and 2010.

**Study Population:** Edo Central Senatorial District of the Mid-Western Region of Nigeria, is located between latitude 05° 44'N to 07° 34' N and Longitude 05° 04'E to 06° 43' N and covering an estimated area of 10,000Km<sup>2</sup>, with a projected population of one million people by 2002 (at 3.17% growth rate since the 1991 census) (Ufua and Olomo, 2000). It is comprised of five local government areas, each of which has 10 primary health centers. The local government areas include Esan West, Esan Central, Esan North East, Esan South East and Igueben.

**Data Collection:** Maternal health services and records for the years 2007, 2008, 2009 and 2010 of 30 randomly selected primary health centers in the study area were reviewed, noting the bookings in Antenatal clinic, Labor unit, post natal care, and PMTCT units. These were obtained from wall charts displayed in the reception of the primary health centers after permission from the matrons in charge. Similarly, information on the availability of VCT and PMTCT from health attendants on duty were obtained with the aid of researcher administered questionnaire.

**Data Analysis:** Data were analyzed using the Statistical Package of Social Sciences (SPSS; version 16) and presented with suitable tables in simple percentages.

## RESULTS

An average of 2719 pregnant women booked at the 30 randomly selected primary health centers per year between 2007 and 2010. Approximately fifty one percent (50.57%) of the booked antenatal patients had their deliveries in the primary health care centers. The number of women who utilized the postnatal clinics, in the primary health centers, was nearly 1.5 and 3 times the number of antenatal bookings and deliveries respectively. Voluntary Counseling and Testing for HIV/AIDS (VCT) and Prevention of Mother to Child Transmission of HIV/AIDS (PMTCT) were absent in all the primary health centers studied. (See Table 1)

**Table 1: Utilization pattern of maternal health services in Edo Central Senatorial District of Nigeria (from PHC records)**

Maternal Health services	No of Clients per Year				Total	Mean ±SD
	2007	2008	2009	2010		
Antenatal booking	2759	2774	2661	2680	10874	2719 ±56
Deliveries	1272	1394	1466	1369	5501	1375 ±80
Post Natal service	3419	3771	3752	3913	14855	3714 ±209
VCT	Nil	Nil	Nil	Nil	Nil	
PMTCT	Nil	Nil	Nil	Nil	Nil	

## DISCUSSION

The human immunodeficiency virus (HIV) can be transmitted from a mother to her child in-utero, during parturition or during breastfeeding (Seeley et al., 2010). Prevention of mother to child transmission of HIV/AIDS (PMTCT) was introduced to Nigeria in 2002, through a pilot programme in eleven Federal University Teaching/Tertiary hospitals (Odutolu et al., 2004). Eighteen months after the outset, about 30,000 women had benefited from the programme. The intention of the pilot programme was to gather information that would be used to develop PMTCT at the state tertiary and district hospitals (Odutolu et al., 2004). With the aid of several donors and funding organizations, such as USAID, Catholic Relief Services as well as Melinda and Bill Gates Foundation, most tertiary and district hospitals in Nigeria now practice PMTCT.

The four elements of the PMTCT programme (National Department of Health 2008) are primary prevention of HIV infection, particularly among women of child bearing age; preventing unintended pregnancies among women living with HIV/AIDS; preventing HIV transmission from a woman living with HIV to her infant; and providing appropriate management, care and support to women living with HIV and their families. Also, a comprehensive package of interventions which have been developed and implemented include: routinely offered voluntary counseling and testing (VCT), counseling on infant feeding practices, safe non invasive obstetric procedures, single dose nevirapine and the provision of infant formula feeding. It was known that the success of the programme would be based on strengthening health systems in Nigeria (Odutolu et al., 2004).

In developed countries, HIV patients are advised not to breastfeed but to bottle-feed using infant formula. Evidence indicates that newborn babies given a single dose of anti-retroviral drug at birth have half the risk of HIV infection as long as they are not breastfed (Seeley et al., 2010). 'Baby friendly' practices have been encouraged in Nigeria for nearly a decade. Most Nigerians are now used to exclusive breast feeding for the first six months. The advantage of this concept is the marked reduction in the rates of infant morbidity and mortality due to dehydration from gastroenteritis (Golding et al., 1997). Therefore a mother who is using supplemental feeding for her newborn is often looked at with suspicion. This gives rise to stigmatization right in the postnatal ward. Separating HIV positive mothers from non positive mothers is even worse. Besides, the use of supplemental feeding can increase the incidence of gastroenteritis among children because of poor hygienic practices. The problems of stigmatization and gastroenteritis can be partially surmounted by use of exclusive breastfeeding and anti retroviral therapy as long as the baby is breast feeding (Seeley et al., 2010).

It appears that PMTCT programme in Nigeria does not include the primary health care centers, which are by definition, the first contact between individuals, families, communities and modern health care (ICPHC 1978). In this study, a yearly average of 2,719 pregnant women was booked at the randomly selected 30 primary health centers in Edo Central Senatorial District of Nigeria. Since there are 774 Local government areas in Nigeria and each local government area has about 10 primary health care centers (Inegbenebor, 2007), a projected estimate of 701,502 pregnant women are booked yearly in all the primary health care centers in Nigeria; all things being equal. At 3.6% prevalence rate, 25,254 pregnant women, of projected yearly estimate of antenatal bookings, are HIV positive and capable of transmitting the virus to their babies. This figure may be on the low side considering the fact that postnatal visits were nearly 1.5 times the number of antenatal bookings during the study period.

The excess of postnatal visits over the antenatal visits probably represents those women who patronize Traditional Birth Attendants (TBA) and small scale private medical practices, who usually have no access to voluntary Counseling and Testing. This group of women attends postnatal clinics in primary health centers in order to have access to immunization facilities.

Of particular interest, is the fact that none of the primary health centers in this study had facilities for voluntary Counseling and Testing or PMTCT, and there is no evidence that women are being referred to Voluntary Counseling and Testing centers. By implication, a large number of HIV positive babies may be delivered yearly in primary health centers, small scale private medical centers and Traditional Birth Attendant's facilities without access to PMTCT. This is unlike South Africa, where PMTCT services are offered in all public hospitals and in more than 90% of the primary health care centers (National Department of Health, 2008).

With the high number of deliveries taking place outside the tertiary and district hospitals, as seen in this study, it is obvious that Nigeria would need to expand the PMTCT programme in order to prevent vertical transmission of HIV from mother to child.

It is indeed worrisome, that PMTCT is unavailable in most primary health care facilities. All tiers of government should improve on voluntary counseling and testing in primary health centers in order to reduce the infant mortality rate and scourge of HIV/AIDS on innocent children in Nigeria. Massive health education should be done in electronic and print media to sensitize women of reproductive age on the need to use the available facilities for Voluntary Counseling and Testing in order to determine their need for PMTCT when pregnant.

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#### **AUTHORS' CONTRIBUTIONS**

All authors took part in the data collection, collation, data analysis and report writing. Dr Ute Inegbenebor is the guarantor of the paper.