



Research Paper

Achievements and Implications of HIV Prevention of Mother-to-Child Transmission among Women of Reproductive Age: A Systematic Evaluation of HAF II Project in Plateau State, Nigeria

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ABSTRACT

Background: Mother-to-child transmission is the predominant route through which children contract HIV and can be controlled through Prevention of Mother-to-Child Transmission (PMTCT) programme. This paper presents programme activities on PMTCT conducted among women of reproductive age in Plateau State, Nigeria.

Methods: This intervention was carried out among women of reproductive age in eight local government areas of Plateau state. Seven civil society organizations were engaged and provided with funding by Plateau State Agency for the Control of AIDS under the HIV/AIDS fund (HAF) II. A total of 7460 women of reproductive age are the estimated sample size for this intervention and the minimum prevention package intervention was used for this project activities. Data were documented using various monitoring and evaluation tools and DHIS2 while analysis was carried out using Microsoft Excel.

Results: The total number of community dialogues/advocacy held was 85 and a total of 1,437 people participated. Seventeen income generation activities were carried out in this intervention and 131 people benefitted from it. A total of 87,028 pieces of condom were distributed with majority (88.5%) being distributed in 2014. Only a total of 5606 women were counseled tested and received result and 44 (0.8%) were tested positive. A total of 3275 women were referred for antenatal care during this programme and more than half (52.0%) were referred in 2014.

Conclusion: This intervention has been helpful in reducing the burden of HIV and AIDS among women of reproductive age in Plateau State. However, the coverage of minimum prevention package intervention was low. More needs to be done in terms of coverage in future programmes and the intervention should also be extended to other local government areas.

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Keywords: *HAF II project, HIV counselling and testing, Minimum prevention package, Prevention of mother-to-child transmission*

I. INTRODUCTION

HIV/AIDS remains a significant global threat [1]. Globally, it is estimated that more than 39 million people have died of acquired immunodeficiency syndrome (AIDS) and there are about 36.9 million people living with HIV. There were around 2 million (1.9 million - 2.2 million) new HIV infections and 1.2 million AIDS-related deaths in 2014 [2]. Despite over two decades of fight against the HIV and AIDS epidemic, Nigeria still has a high burden of HIV and AIDS, second only to South Africa by global ranking [3]. According to the 2012 National HIV and AIDS and Reproductive Health Survey, the prevalence of HIV in Nigeria is 3.4% [4]. This figure was a reduction from the 3.6% recorded in the survey conducted in 2007 [5].

Mother-to-child transmission (MTCT), or vertical transmission of HIV infection, is the transmission of the virus from an infected mother to her child during pregnancy, labour, delivery or breastfeeding [6-7]. Greater than 90% of HIV infections among children occur through MTCT; with 90% of MTCT occurring in sub-Saharan Africa. In the absence of appropriate treatment, about half of these children die before their second birthday [8]. MTCT rates of less than 2% have been reported in high income countries owing to provider-initiated HIV counselling and testing (HCT), accessibility to antiretroviral (ARV) prophylaxis and safe use of breast milk substitutes [9-10]. This differs significantly from what obtains in sub-Saharan Africa, Nigeria inclusive. Nigeria accounts for about 30% of the global burden of MTCT; with a MTCT rate of about 32% and about 75,000 new infant HIV infections per annum. The ARV coverage for PMTCT is 22% among the estimated 210,000 annual HIV infections among pregnant women [11-14].

The risk of MTCT is high in Nigeria because of the high prevalence of HIV among women of reproductive age (4.8%), high fertility rate (5.6%), prolonged breast feeding associated with mixed feeding and poor access to effective interventions aimed at preventing MTCT [15]. Nigeria also contributes the highest number of vertically transmitted childhood HIV infections, accounting for 30% of the global burden [16]. The latter is partly due to the large number (3.4 million) of people living with HIV (PLHIV) in Nigeria of whom 57% are women [3]. In a study conducted by Oyesakin et al. [1], it was found out that an overall HIV vertical transmission rate of 6.4% (23/359) was found. A lower rate of 1.6% (5/311) was obtained for those whose mothers fully accessed PMTCT programme as opposed to 15.0% (3/20) for those whose mothers had incomplete participation and 53.6% (15/28) for those whose mothers did not participate [17]. In view of the alarming rate as regards transmission rates of HIV to infants in Nigeria, an HIV prevention programme among women of reproductive age is needed to reduce the number of children being infected with HIV. This article therefore presents achievements and implications of HIV prevention of mother-to-child transmission programme among women of reproductive age in Plateau State, Nigeria.

II. METHODOLOGY

Study Design

This was an intervention project designed to increase demand for HIV counseling and testing (HCT) and utilization of prevention of mother-to-child transmission services among women of reproductive age in Plateau State, Nigeria

Study Area

Plateau State is one of the states that make up the North-Central geo-political zone of the country. The state is the twelfth largest state of Nigeria, and is roughly located in the center of the country. With an area of 26,899 square kilometres, the state has an estimated population of about three million people according to the 2006 census. Plateau state is bounded in the North East by Bauchi State, North West by Kaduna State, South East by Taraba State and to the South and South West by Nasarawa State. It is located between latitude 8°24'N and longitude 8°32' and 10°38' east. The State has over forty ethno-linguistic groups and the people are predominantly farmers. The state has three senatorial zones and is subdivided into seventeen local government areas (LGAs).

Target Population

The target population for this study are women of reproductive age within the ages of 15 and 49 years drawn from seven randomly selected local government areas (LGAs) which are Langtang North, Langtang South, Barkin Ladi, Shendam, Jos North, Jos South, Mangu and Mikang LGAs.

Sample size

A total of 7460 women were the estimated sample size for this intervention

Description of Intervention

Seven civil society organizations (CSOs) were engaged by Plateau State Agency for the Control of AIDS and provided with financial support under the HIV/AIDS Fund (HAF) II of the HIV Programme Development Project II (HPDP2) to implement this intervention. Halt AIDS, Inter Gender Development Centre (IGDC), Adolescent Health and Empowerment Development Initiative (AHEAD) and Bish Integrated Services are the CSOs engaged to implement this intervention. Other CSOs engaged are Country Women Association of Nigeria (COWAN), AIDS Care Education and Training (ACET), and Fellowship of Christian Students (FCS). The project was implemented between 2013 and 2016. The minimum prevention package intervention (MPPI) for HIV which are *structural, behavioural* and *biomedical* interventions were used for this intervention activities.

Structural Intervention

Series of advocacy visits were made to major stakeholders in all the project communities. Community dialogues were also organized to engage key influencers community stakeholders/ gatekeepers and healthcare facilities in all the LGAs used for this intervention.

Behavioral Intervention

Peer educators (PEs) were selected among the women of reproductive age, trained on issues relating to HIV and AIDS and deployed for the behavioural intervention. The PEs in turns selected their peers and reached with cohort session on HIV behavioral change messages and were also encouraged to go for HIV Counseling and Testing (HCT). They cohort sessions were held at least 2 times or at most 3 times a month within an interval on 15 and 10 days respectively. A minimum of 6 and maximum of 9 contacts were made with the peers. Condoms were also distributed during the cohort session. There was monthly supervision and retrieval of PEs activities tools in all project communities.

Biomedical Intervention

HIV counselling and testing were conducted among the target population by trained counselor testers. Those who tested positive were referred to facilities for further services including antiretroviral therapy. Client tested were also assessed for STIs and referral were made appropriately.

Data Analysis

Data were documented using various monitoring and evaluation tools and entered into the DHIS2 platform. The analysis was carried out using Microsoft Excel and presented using tables and charts.

Ethical consideration

It was ensured that there was confidentiality during HIV counseling and testing and permission was adequately sought from various community leaders before approaching the community members. Client intake forms used during the HCT were also kept where unauthorized person could not gain access to it.

III. RESULTS

The findings are presented based on the levels of intervention: structural, behavioural and biomedical interventions. The target reached during this intervention was 9258 women given a target reached of 124.1%.

Structural Interventions

The total number of community dialogues/advocacy held was 85. More than half (54.1%) of the dialogues were held in 2014 as compared to 36.5% in 2013. A total of 1437 influencers partook in the community dialogues with majority 834 (58.0%) participating in 2014. There were 3 income generation activities (IGAs) carried out during the course of the programme and all were held in 2014. A total of 131 people benefitted from IGA with all of these people benefiting in 2014 (Table 1).

Table 1: Structural Interventions

| Period | Number of community dialogues held (%) | influencers participating in community dialogue (%) | Number of individuals referred for IGA (%) | Number of IGA held (%) | No of persons benefited from IGA (%) |
|---------------|---|--|---|-------------------------------|---|
| 2013 | 31 (36.5) | 532 (37.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| 2014 | 46 (54.1) | 834 (58.0) | 26 (100.0) | 3 (100.0) | 131 (100.0) |
| 2015 | 8 (9.4) | 71 (5.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| Total | 85 | 1437 | 16 | 3 | 131 |

Behavioral Interventions

Majority (58.7%) of the peers were registered for this intervention in 2014 while 41.3% peers were registered in 2015. A total of 87,028 pieces of condom were distributed with majority (88.5%) being distributed in 2014 (Table 2). Majority (95.3%) of the condoms distributed were male condoms, only 4.7% were female condoms. Most (60.7%) of the peers reached with HIV education were reached in 2014 (Table 2).

Table 2: Behavioural Interventions

| Period | Number of peers registered (%) | Number of peers reached with HIV education (%) | Number of condoms distributed (%) |
|--------------|--------------------------------|--|-----------------------------------|
| 2013 | 0 (0.0) | 0 (0.0) | 465 (0.5) |
| 2014 | 5436 (58.7) | 3085(60.7) | 77050 (88.5) |
| 2015 | 3822 (41.3) | 1994 (39.3) | 9513 (11.0) |
| Total | 9258 | 5079 | 87028 |

Biomedical Interventions

A total of 5,606 were counseled tested and received result (CTR) between 2013 and 2015. Among these, 94.6% were carried out in 2014 while only 3.6% in 2015. On the number of persons referred for ART, 76 women were referred in total for ART with all referred in 2014. A total of 471 persons were referred for STI services between 2013 and 2015. Majority (82.6%) were referred in 2014 while 12.1% were referred in 2015. Data on number of persons who received STI services showed that a total of 33 persons received STI services and all did so in 2014. Forty-six persons went for STI follow-up, out of this, 81.0% went for follow-up in 2014 while 19.0% went for follow up in 2015 A total of 3275 women were referred for antenatal care during the programme. More than half (52.0%) were referred in 2014 while 21.3% were referred in 2015 (Table 3).

Table 3: Biomedical Interventions

| Period | No CTR* (%) | No referred for ART (%) | No. referred for STI (%) | No receiving STI services (%) | No of persons going for STI follow-up (%) | Pregnant women referred for antenatal (%) |
|--------|-------------|-------------------------|--------------------------|-------------------------------|---|---|
| 2013 | 101 (1.8) | 0 (0.0) | 25 (5.3) | 0 (0.0) | 0 (0.0) | 875 (26.7) |
| 2014 | 5303 (94.6) | 76 (100.0) | 389 (82.6) | 33 (100.0) | 34(81.0) | 1703 (52.0) |
| 2015 | 202 (3.6) | 0 (0.0) | 56 (12.1) | 0 (0.0) | 8 (19.0) | 697 (21.3) |
| Total | 5606 | 76 | 471 | 33 | 42 | 3275 |

* Counseled, tested and received result

Coverage of MPPI, HCT and Prevalence of HIV

A total of 4,779 (51.6%) of the registered peers of 9258 were reached with all the three stages of MPPI and 5606 (75.1%) of the estimated size of 7460 were reached with only HCT. Among these, 44 (0.8%) were tested positive to HIV (Fig. 1).

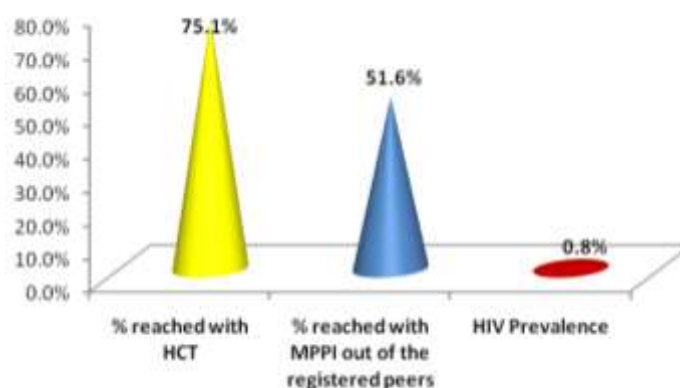


Figure 1: Coverage of MPPI, HCT and prevalence of HIV

IV. DISCUSSION

The PMTCT project in Plateau State used the minimum prevention packaged intervention (MPPI) divided into structural, behavioural and biomedical interventions. It has been stated that combination of these three intervention strategies are necessary in order to achieve a comprehensive HIV prevention intervention [16]. Many community dialogues were held in this study; this is a key activity under the structural intervention. This activity was similar to what was done in the social mobilization and communication to prevent mother-to-child transmission of HIV study carried out in South Africa. Community dialogue was used in discussing and educating women about PMTCT [18]. It could also be said that the community dialogues made other interventions possible as this serves as medium in which the project purpose were communicated to the important stakeholders in the community. Some people benefitted from IGAs in this project. This may be connected to the report by Jalipa and Mugubi [19] in Kenya where they reported that IGA improved income of PLWHAs which in turn allowed access to ARTs, improved health and nutrition, restored dignity and self-respect and decreased stigma. Condom education and distribution in this project agrees with the study conducted by Rutenberg et al., [20] where it was stated that PMTCT services are an important outlet for promoting condoms for multiple protection. Condom promotion has also been emphasized by relevant stakeholders in the Nigeria [21]. Peer education was one of the behavioural strategies that ensured the success of this project. This agrees with the statement that peer education is a widely-utilized HIV-prevention strategy that was accepted and valued by both programme audiences and stakeholders as reported by UNAIDS [22]. The overall achievement of this project was below the expected outcome as the number of peers reached with all the stages of MPPI was just a little above average of the peer registered. The coverage of HCT in this project was higher than the percentage (42.5%) recorded among mothers who used non-orthodox health facility in a study conducted by Oladokun et al. [23] in Oyo state, Nigeria. The difference might be due to the fact that the current project involved a lot of community engagement and free services. The importance of combination methods used in the current project cannot be overemphasized as it has contributed immensely to the success of this project. Though, a substantial number of the women were not reached and referred for antenatal care services due to the low coverage in this project. This could be attributed to inadequate resources on the field or poor timing of the release of funds to the implementing organizations. Reaching and referring women for antenatal care should be a priority in similar programmes in the future. The programme should also be extended to other LGAs not covered in this project.

Implications for Programming

There are important implications for programming to be noted as regards the results from this intervention. Knowledge of HIV status is essential in order to consider all available treatment options, and to make informed decisions related to partner infection, childbearing and pregnancy. Testing for pregnant women, youth and children at risk should be a national priority. Provider-initiated approaches should be promoted to increase the availability of testing, reduce stigma and reach people in need of testing and treatment. Prevention of unintended pregnancy in the general population should be given a priority for the prevention of transmission of HIV to children because many women and men do not know their HIV status. Increasing family planning to prevent unintended pregnancy among HIV-positive women should be a major method of preventing of HIV infection in children and this will be cost effective. The percentage of female condom distributed in this programme was quite low (4.7%) and this might be due to high cost of female or low acceptability of female condoms in the Nigeria community. For the fact that this intervention was carried out among females only, similar programmes in future should consider adequate provision of female condoms as part of interventions and community awareness to ensure acceptability of female condoms should be ensured. Interventions aimed to prevent mother-to-child HIV transmission should go hand-in-hand with strengthening maternal and child health services, and other reproductive/sexual health programmes. Many strategies for preventing MTCT should benefit all women who are, or may become, pregnant. PMTCT services should be available to all pregnant women attending antenatal clinics. Quality antenatal, delivery and post partum care should be provided to all women, irrespective of HIV status.

V. CONCLUSION

This intervention has been helpful in reducing the burden of HIV and AIDS among women of reproductive age in Plateau State. However, in respect of the total percentages of peers reached with minimum prevention package intervention, more needs to be done in terms of coverage in future programmes and the intervention should also be extended to other local government areas by government and non-governmental agencies.

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REFERENCES

- [1]. Oyesakin, A. B., Akinsulie, A., Oniyangi, O., Audu, L. I., Ogunfowokan, O. 2016. PMTCT Programme reduced vertical transmission of HIV in Abuja, Nigeria. *Niger J Paediatr.* 43(3):166–169
- [2]. UNAIDS. The Gap Report 2014. Geneva, Switzerland, 2014. Available from: http://www.unaids.org/en/resources/documents/2014/20140716_UNAIDS_gap_report.
- [3]. Federal Ministry of Health Nigeria. A Technical Report on National HIV sero-prevalence sentinel survey. Abuja: Federal Ministry of Health, 2010.
- [4]. Federal Ministry of Health (2013). National HIV and AIDS and Reproductive Health Survey, 2012 (NARHS Plus). Federal Ministry of Health Abuja, Nigeria
- [5]. National Agency for the Control of AIDS (NACA). 2015. Global AIDS Response Country Progress Report.
- [6]. Joint United Nations Programme on HIV/AIDS (2008) Global report: UNAIDS report on the global AIDS epidemic. UNAIDS, Geneva.
- [7]. Abajobir AA, Zeleke AB (2013) Knowledge, Attitude, Practice and Factors Associated with Prevention of Mother-to-Child Transmission of HIV/AIDS among Pregnant Mothers Attending Antenatal Clinic in Hawassa Referral Hospital, South Ethiopia. *J AIDS Clin Res* 4: 215.
- [8]. Federal ministry of health (2005). National guidelines on prevention of mother to child transmission of HIV in Nigeria. National AIDS and STI Control Programme (NASCP). Abuja.
- [9]. Newell ML (2006) Current issues in the prevention of mother-to-child transmission of HIV-1 infection. *Trans R Soc Trop Med Hyg* 100:1-5.
- [10]. Wangwe PJT, Nyasinde M, Charles DSK (2014) Effectiveness of counselling at primary health facilities: Level of knowledge of antenatal attendee and their attitude on Prevention of Mother to Child Transmission of HIV in primary health facilities in Dar es salaam, Tanzania. *Afr Health Sci* 14: 150-156.
- [11]. World Health Organization (2010) Towards universal access: scaling up priority HIV/AIDS interventions in the health sector. WHO, Geneva.
- [12]. World Health Organization (2011) Progress report 2011: Global HIV/AIDS response. WHO, Geneva.
- [13]. Ezeanolue EE, Obiefune MC, Yang W, Obaro SK, Ezeanolue CO, et al. (2013) Comparative effectiveness of congregation-versus clinic based approach to prevention of mother-to-child HIV transmission: study protocol for a cluster randomized controlled trial. *Implement Sci* 8:62.
- [14]. National Population Commission (NPC) and ICF Macro (2009) Nigeria Demographic and Health Survey 2008: Key Findings. NPC and ICF Macro, Calverton, Maryland, USA.
- [15]. Eneh, A. U. 2007. Human Immunodeficiency Virus (HIV) Infection in: Azubuike, J. C., Nkanginieme, K. E. O. eds. *Paediatrics and Child Health in a Tropical Region* 2nd edition. Owerri. Africa Educational Services, Nigeria. 645
- [16]. Federal Ministry of Health, 2014. National Operational Plan for the Elimination of Mother to Child Transmission (eMTCT) of HIV in Nigeria 2015–2016. HIV/AIDS Division, Federal Ministry of Health
- [17]. Kourtis, A. P, Lee, F. K., Abrams, E. J., Jamieson, D. J. and Bulterys, M. 2006. Mother-to-child transmission of HIV: Timing and implications for prevention. *Lancet Infect Dis.* 6(11):726-732.
- [18]. Dwadwa-Henda, N., Mfecane, S., Phalane, T., Kelly, K., Myers, L. and Hajjiannis, H. 2010. Social mobilisation and communication to prevent mother-to-child transmission of HIV. Johannesburg: CADRE/UNICEF
- [19]. Jalipa, H. and Mugubi, R.. 2006. Income Generating Activities for People Living with HIV and AIDS, Mashuru, Kenya. World Vision.
- [20]. Rutenberg, N., Baek, C., Geibel, S., and Kaai, S. 2005. Studies find positive attitudes and use of condoms by HIV-positive women: An opportunity for PMTCT programmes. American Public Health Association 133rd Annual Meeting & Exposition December 10-14, 2005.
- [21]. National Agency for the Control of AIDS (NACA). 2015. Income Generation Activities for HIV infected and affected Women.
- [22]. UNAIDS. 1999. Peer education and HIV/AIDS: Concepts, uses and challenges. Available at http://www.unaids.org/sites/default/files/media_asset/jc291-peereduc_en_0.pdf
- [23]. Oladokun, R. E., Ige, O and Osinusi, K. 2013. Gaps in preventing mother to child transmission (PMTCT) and human immune deficiency virus (HIV) exposure among infants in a Nigerian City: Implications for health systems strengthening. *Journal of AIDS and HIV Research.* 5(7) 254-259