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Research Article

ACHIEVEMENTS AND IMPLICATIONS OF HIV PREVENTION OF MOTHER-TO-CHILD TRANSMISSION AMONG WOMEN OF REPRODUCTIVE AGE: A SYSTEMATIC EVALUATION OF HAF II PROJECT IN BAYELSA STATE, NIGERIA

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ABSTRACT

Background: Although some progress has been reported in scaling up of access to prevention of mother to child transmission of HIV (PMTCT) services in Nigeria, much work remains to be done. This paper presents achievments and implications of HIV prevention programme conducted among women of reproductive age in Bayelsa State, Nigeria.

Methods: Three civil society organizations were engaged by Bayelsa State Agency for the control of AIDS to carry out this project and funded under the HIV and AIDS Fund (HAF) II project. The estimated sample size for this intervention was 54,296 women of reproductive age within 15 and 49 years and minimum prevention package intervention (MPPI) was adopted in the implementation of this project. Data were documented using various Monitoring and Evaluation tools and entered on the DHIS2 platform. The analysis was carried out using Microsoft Excel and presented using tables and charts.

Results: The number of community dialogues held during this intervention was 95 and 831 influencers participated. The number of peers registered during this project was 6,689. The total number of condoms required was 78,869 but only 48809 condoms were distributed. A total of 5289 (79.1%) of the registered peers were reached with all the three stages of MPPI and 60360 (111.2%) women were reached with HCT. Among these, 377 (0.6%) were tested positive to HIV.

Conclusion: Despite the appropriate use of structural intervention which reflected positive achievements in the biomedical intervention, the behavioural intervention recorded very low achievements. Future PMTCT programmes should ensure adequate participation of women on peer education activities.

INTRODUCTION

The emergence of the HIV infection has increased the already heavy burden of disease and death among women and children in low and middle-income countries such as Nigeria (Attawell, 2008). In 2010, WHO, UNICEF and UNAIDS jointly estimated that about 34 million people were living with HIV globally and South Africa and Nigeria accounted for about 40% of global burden of disease (UNAIDS, 2011).

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Sub-Saharan Africa has continued to bear the greatest burden of the HIV and AIDS epidemic, with approximately 67.6% of the total number of people living with HIV, 69.2% of the 2.6 million of total new infections and 72.2% of the 1.8 million deaths in 2009. Over the decades, the epidemic, once dominated by infected males has become progressively feminized and in sub-Saharan Africa approximately 60% of adults living with HIV are women. Over 90% of infection in children is acquired through mother-to-child transmission (MTCT) and as more women contract the virus, the number of children infected has been growing (Federal Ministry of Health, 2010).

In Nigeria, the various sentinel surveys of pregnant women attending antenatal clinic have revealed persistently high HIV prevalence of 5.8%, 5%, 4.4%, 4.6%, and 4.1% in 2001, 2003, 2005, 2008 and 2010 respectively (Federal Ministry of Health, 2010; Federal Ministry of Health, 2004; Federal Ministry of Health, 2005 Federal Ministry of Health, 2008). The risk of MTCT is high 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 (Eneh, 2007). This has therefore contributed to the global burden of HIV with Nigeria having the second largest burden of HIV (3.3 million people infected in 2009), and the largest pediatric HIV-infected population in the world, (over 360,000 children aged <15 years living with HIV) (UNAIDS, 2010). It has been shown that Nigeria bears the highest unmet burden of mother-to-child HIV transmission in the world (Aliyu *et al*., 2013). Each year, 230,000 HIV-infected women who have an unmet need of services for prevention of mother-to-child transmission of HIV (PMTCT) give birth in Nigeria, more than in any other nation. In 2010, only 14% of pregnant women in Nigeria received HIV testing, and only 8% of eligible HIV-positive women were offered antiretroviral prophylaxis (World Health Organization, 2011).

Implementation of the PMTCT programme in Nigeria commenced in July 2002 in six sites and had scaled up to six hundred and forty (640) sites across the six geo-political zones by 2008. It has been integrated into routine antenatal services offered in the country (Federal Ministry of Health Nigeria Abuja, 2005). To prevent perinatal HIV infection, a pregnant woman with HIV infection needs to be identified early in pregnancy and ARVs administered to mother and baby, including the breastfeeding period where applicable. Missed opportunities forPMTCT occur when any of these activities do not take place and factors, which vary in different geographical and cultural settings, influence this (Peters *et al*., 2003; Turchi *et al*., 2007; Rodrigues *et al*., 2008; Bailey *et al*., 2007). The delivery of HIV counseling and testing (HCT) services toward pregnant women for PMTCT is one of the most important HIV prevention strategies (World Health Organization, 2010). During the past decade, significant progress has been made in scaling-up PMTCT services to pregnant women, particularly in resource constrained countries (Luo *et al*., 2007; World Health Organization, 2006). Although some progress has been reported in scaling up of access to PMTCTservices in Nigeria, with annual HIV positive births of 56,681, hence much work needs to be done (NACA Fact Sheet, 2011). This paper therefore presents achievements and implications of HIV prevention of mother-to-child transmission (PMTCT) activities among women of reproductive age in Bayelsa State, Nigeria.

MATERIALS AND METHODS

Study Design

The study was an intervention project. Three civil society organizations (CSOs) namely I Care Save A Soul, Initiative and Perpetual Succour for Women and Children (PESWAC) and Civil Society for HIV and AIDS, in Nigeria (CISHAN) were engaged by Bayelsa State Agency for the control of AIDS and funded under the HIV and AIDS Fund (HAF) II project of the World Bank to reduce the incidence and prevalence of HIV among women of reproductive age in Bayelsa State, Nigeria.

Study Area

Bayelsa state, the study area was carved out of Rivers State in 1996 and is situated in the Niger Delta region of the South-South geographical zone of Nigeria. The capital of the state is Yenagoa and it shares boundaries with Delta State on the North, Rivers State on the East and the Atlantic Ocean on the West and South. The main language spoken is Ijaw with other dialects being Kolukuma, Bomu, Mein, Ogbia and Nembe. Bayelsa State is a major oil and gas producing area and contributes to over 30% of Nigeria's oil production. The state has 8 Local Government Areas (LGAs) which are Brass, Ekeremor, Kolokuma/Opokuma, Nembe, Ogbia, Sagbama, Southern Ijaw and Yenagoa. Lots of rural communities are not accessible by road but by boat due to the riverine nature and boat transportation is usually very expensive. This has made access to comprehensive HIV and AIDS prevention, treatment and care and support services in the state very difficult for those living in these rural areas.

Study Population

The target population for this study consisted of women of reproductive age within the ages of 15 and 49 years. The participants were drawn from 7 out of the 8 LGAs in the state. The selected LGAs were Brass, Ekeremor, Kolokuma/Opokuma, Nembe, Ogbia, Sagbama and Southern Ijaw.

Sample size

A total of 54,296 women were the estimated sample size for this intervention

The Intervention

The minimum prevention package intervention (MPPI) was adopted in the implementation of this project. Project interventions were categorized under the three components of MPPI namely structural, behavioural and biomedical interventions. The intervention was carried out between April, 2016 to January, 2017. Activities carried out under each of the component are summarized below;

Structural Intervention

There was development of advocacy messages, pre-advocacy visits as well as advocacy visits to major stakeholders in all the project communities. Under this structural intervention, community dialogues were held and this provided platform for the project team to introduce HIV and AIDS Fund (HAF II) project to target communities and seek for their collaboration and support on the project. During community dialogues, leaders of various community subsets; traditional birth attendants (TBAs) and heads of health facilities etc. were represented. There were community outreaches to healthcare facilities, local community gatherings as well as religious settings.

Behavioral Intervention

Peer Educators (PEs) were selected among the women of reproductive age, trained on issues relating to reproductive health including HIV and AIDS and they were subsequently

deployed for the behavioural intervention among their peers. The PEs thereafter selected at least 10 of their peers who they later reached out to during cohort session on HIV behavioral change messages and were also encouraged to go for HIV counseling and testing (HCT). The 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

In this phase of the 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. Clients tested were also assessed for STIs and referrals were made appropriately. Home base care kits were given to TBAs in the communities while women in relevant cases were referred for antenatal care service in health care facility.

Data Analysis

The data used for this study was provided by the three CSOs involved in this project. The data collected involved activities during the structural intervention, behavioural intervention and biomedical intervention. Data were documented using various Monitoring and Evaluation tools and entered on the DHIS2 platform. The analysis was carried out using Microsoft Excel. Data were then presented using tables and charts.

Ethical Consideration

Measures were taken to ensure that the programme was guided by provisions of ethics. This project was submitted to the Federal and State ethical review board for approval. Apart from this, permission to carry out this intervention was sought from various community leaders as well as participants before they were engaged. Confidentiality was also ensured while sensitive intervention such as HCT was conducted in anonymous setting.

RESULTS

The findings are presented based on the levels of intervention: structural, behavioural and biomedical interventions. The overall target population reached during this intervention was 70360 given a target reached of 111.2%.

Structural Interventions

Community dialogues were the major activity under this structural intervention. The number of community dialogues held during this intervention was 95 with 66.0% held in the second quarter (2nd Q) and 34.0% held in the first quarter (1st Q). A total of 831 influencers participated in community dialogues out of which 79.5% participated in the first quarter and only 20.5% of the influencers participated in the second quarter (Table 1).

Behavioural Intervention

The number of peers registered during this project was 6,689. Majority (70.8%) of the peers were registered in the second quarter while 29.2% were registered in the first quarter. The total number of condoms required was 78,869 but only 48809 (male condoms=45332, female condoms=3477) were distributed. Distribution of condoms occurred in the second quarter alone. The number of lubricants required and the number of lubricants distributed were 7,826 and 1,134 respectively with all lubricants distributed in the second quarter (Table 2).

Table 1. Structural Intervention

Period	Number of community dialogues held (%)	Influencers participating in community dialogue (%)
1st Q	38 (40.0)	661 (79.5)
2nd Q	57 (60.0)	170 (20.5)
Total	95	831

Biomedical Interventions

A total of 60360 were counselled, tested and received result (CTR) and 59.4% were CTR in the second quarter. Among these, 377 persons were tested positive. A total of 4 women were referred for STI service and all were referred in the second quarter of the programme. Only 3 women received STI services during the programme with all receiving the services in the second quarter of the implementation. Majority (64.6%) of pregnant women were referred for antenatal in the second quarter of the project while 35.6% were referred for antenatal in the first quarter (Table 3).

Coverage of MPPI, HCT and Prevalence of HIV

A total of 5289 (79.1%) of the registered peers were reached with all the three stages of MPPI and 60360 (111.2%) were reached with HCT. Among these, 377 (0.6%) were tested positive to HIV (Fig. 1).

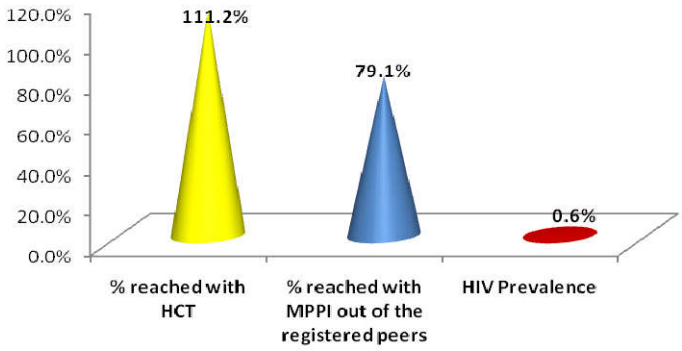

Figure 1. Coverage of MPPI, HCT and Prevalence of HIV

DISCUSSION

The number of community dialogues held in this intervention was a great achievement in this project. Participation of community members such as mother-to-mother groups has been documented to help in reaching more people in teaching about PMTCT programme and tracing default HIV-positive mothers and exposed infants (Deressa *et al*., 2014). In relating the success of community dialogues to participation of influencers, it is important to note that the number that participated did not translate into more dialogues as seen in this project.

Table 2. Behavioural Interventions

Period	No. of peers registered n (%)	No. of condoms required n (%)	No. of condoms distributed n (%)			No. of Lubricants required n (%)	No. of Lubricants distributed n (%)
			Male Condoms	Female Condoms	Total		
1st Q	1956 (29.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
2nd Q	4733 (70.8)	78869 (100.0)	45332 (100.0)	3477 (100.0)	48809 (100.0)	7826 (100.0)	1134 (100.0)
Total	6689	78869	45332	3477	48809	7826	1134

Table 3. Biomedical Interventions

Period	No CTR* (%)	No tested positive (%)	No. referred for STI (%)	No receiving STI services (%)	Pregnant women referred for antenatal (%)
1st Q	24485 (40.6)	252 (66.8)	0 (0.0)	0 (0.0)	2037 (35.4)
2nd Q	35875 (59.4)	125 (33.2)	4 (100.0)	3 (100.0)	3723(64.6)
Total	60360	377	4	3	5760

*CTR= Counselled, tested and received result

For example, more influencers were involved in the first quarter however, less community dialogues were held in the same quarter. Community dialogues made it possible to implement other interventions under the MPPI package. The behavioral intervention in this study was particularly characterized by peer education and distribution of condoms. Use of peer educators in particular has been found to be effective in PMTCT projects (Dwadwa-Henda *et al*., 2013). However, the current project recorded very poor number of the target population registered to attend the cohort session (peer education) thus contributing immensely to the poor achievement. It was shown in this project that more male condoms were distributed compared to female condoms. In fact, female condoms only constituted about 7.1% of the total condoms distributed. This result is affirms the findings from a previous studywhich showed that the use of female condoms is generally low (Ezire *et al*., 2013). Although the low number distributed in the current project could be attributed inadequate provision of female condoms due to factor such as funding. It could also be that women do not have the adequate knowledge to use female condom which will in turn result in low uptake as observed in some studies in Africa (Valens, 2013; Choi *et al*., 2008). The fact there was no condom and lubricant distributed during the first quarter of the programme activities could be attributed to untimely provision of commodities. This actually had serious negative impact on condom and lubricant programming in this project.

The number of women reached with HCT in this project was more than what was estimated which was particularly the major success story of this intervention. However, a study conducted among pregnant women in Ethiopia recorded just 18% achievement on HCT (Deressa, 2014). This could be attributed to the fact that Ethiopia study did not make use of MPPI as in the current project thus emphasizing the importance of MPPI in HIV programming. There was low achievement in terms of number of peer registered which in turn led to low coverage of MPPI. The low coverage of PMTCT in this study is supported by the result of a study conducted in Plateau state where low coverage rate especially was reported in PHCs (Envuladu *et al*., 2014). Envuladu *et al*. (2014) stated that their result could be because of the concentration of health workers in secondary and tertiary health centres in the urban areas.

However, despite having similar result to the present study, strategies used were different. The current study used the MPPI strategy and was majorly community-based. Affirmatively, low coverage of MPPI in this intervention could be attributed to the low turn-out of women for peer registration and peer/cohort session. Reasons for low coverage of MPPI might not also be unconnected with the challenges such as inadequate incentives provided to the registered peers by CSOs during implementation. The study recorded an HIV prevalence of 0.6% among participants. This is lower than the prevalence of 3.94% recorded by Egesie and Mbooh (Egesie, 2008) among similar population also in Bayelsa State. However, this prevalence is similar to the prevalence recorded in a similar project by Adelekan *et al*., (2017) in Plateau State where a prevalence of 0.8% was recorded.

Implication for programming

Despite the fact that this project recorded good achievement in terms of HCT, percentage reached with MPPI was extremely low especially when compared to the number reached with HCT only. For similar programmes in the future, it is necessary to sustain the successful aspect of the programme and at the same time improve on the areas with poor performance. This is even more important as the poor performance in this project could lead to increase in the incidence and prevalence of pediatric HIV infection. Hence future programmes need to ensure participants are reached with behavioral intervention.

A substantial number of rural communities are not accessible by road but by boat due to the riverine nature of Bayelsa state. This has previously affected the comprehensive HIV and AIDS prevention, treatment and care and support services in the State and could have contributed to the poor performance in the current project. Hence future HIV programming should plan and budget ahead to overcome this challenge. The government should try to contribute their quota in the fight against HIV and AIDs by providing good means of transportation, facilities and look after the welfare of staffs in such facilities. To sustain this programme in the state, the strategies used under the behavioural intervention component should be improved upon. This could also be vital for the success of similar HIV programmes in the future.

Conclusion

Despite the appropriate use of structural intervention which reflected positive achievements in the biomedical intervention, the behavioural interventions recorded very low achievements which could be attributed to low turnout of women for peer registration and cohort session. To ensure good coverage of similar intervention in future programmes, there must be adequate provision of funds and commodities such as female condoms and lubricants. Government also needs to make provision for good transport facilities especially to the rural communities in the State.

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