Evaluation of HIV prevention programme among out-of-school youths: achievements and implications of HIV/AIDS funded project in Osun State, Nigeria

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Abstract
Youths are disproportionately affected by HIV infection. This article presents the achievements and implications of HIV Programme Development Project among Out-Of-School Youths (OSY) in Osun State, Nigeria. A total of 5934 peer educators from randomly selected areas of the State were trained. The Minimum Prevention Package for Intervention (MPPI) strategy including structural, behavioural and biomedical interventions was used. Data from DHIS2 platform was analysed with Microsoft Excel and qualitative interviews with the stakeholders was reported. Two hundred and sixty-three community dialogues were held within the period of the project with 2406 participants and 27,449 peers recruited by the peer educators. A total of 15,984 OSY were counselled, tested and received results for HIV and 167 (1.05%) of them tested positive to HIV infection. There is a need to scale-up this programme in Osun State and efforts at reaching the OSY based on MPPI should be intensified.

Introduction
The Out-of-school youths are a diverse group. They may have dropped out of school, or never started school, may have jobs or not, may be single or married, and they may even be girls who have been forced to quit school because they need to work in the home, are pregnant or have babies (Burns & Ruland, 2004). Out-of-school youths hawk on the street, engage in menial jobs in factories, stay at home for housework or child care or are unemployed. Many out-of-school youth come from displaced families and some from intact families that either cannot or choose not to send their children to school. Street children, adolescent sex workers, orphans, child soldiers and other such groups are generally, but not always, out of school (Burns & Ruland, 2004; Marfatia, 2010). They also lack access to health care and education and they suffer from physical and psychological abuse, unintended pregnancies, poverty, stigmatization and gender-based violence (UNAIDS, 2014).

Worldwide, there are more than one billion people who are youths and most of them live in developing countries (World Health Organisation, 2011). Approximately, four million young people aged 14
to 24 years are living with Human Immunodeficiency Virus (HIV) and 29% of them are adolescents aged 15–19 years (Bekker, Johnson, Wallace, & Hosek, 2015). In 2012, approximately two-thirds of new HIV infections occurred among female adolescent ages 15–19 years (UNICEF, 2013). About one-seventh of all new HIV infections occur during adolescence (WHO, 2013). Every week, more than 5000 adolescent girls and young women acquire HIV (UNAIDS, 2015).

The youth constitutes the population aged 15–24 years and today’s youths have never seen a world free of HIV even as they remain vulnerable to the infection despite the on-going efforts to suppress the menace (Croce-Galis & Hardee, 2014). About 22.5 million Africans are HIV positive, and Acquired Immunodeficiency Syndrome (AIDS) is the leading cause of premature death in the continent. The increasing number of sexually transmitted infections including HIV among the youths in sub-Saharan Africa indicates that successive efforts towards preventing the scourge remain inadequate in the continent. It suggests that many young people are sexually active with low level of use of condoms contributing to the increasing spread of sexually transmitted infections including HIV among the youths (Juarez & LeGrand, 2005; Okekearu, 2004). Sub-Saharan Africa is home to 82% of young people living with HIV (UNICEF, 2015) and HIV/AIDS threatens the development goals in sub-Saharan African unlike anywhere else in the world.

The youths accounts for 40–50% of the population in Nigeria (Inoue, di Gropello, Taylor, & Gresham, 2015). In spite of marginal reduction in the burden of HIV/AIDS among Nigerian youth from 6% in 2001 to 4.1% in 2010, HIV prevalence rate among this category of population remains one of the highest in the world (Federal Ministry of Health, 2010). National estimates of HIV prevalence show that HIV prevalence rate for adolescents (15–19 years) and youths (age 20–24 years) peaked at 3 and 4.6%, respectively (Omoenyi, Akinyemi, & Fatusi, 2012). In 2012, the overall HIV prevalence in Nigeria was 3.4%, however, the prevalence of HIV in Osun State, Nigeria is 2.6% (Federal Ministry of Health, 2013).

The Osun State Agency for the control of AIDS observed the importance of reaching the out-of-school youths in the state and is committed to ensuring their sound health. As part of the HIV Prevention Development Project with support from World Bank, evidence-based policies and implementation were developed for the prevention of HIV among out-of-school youths. Therefore, this article presents efforts and achievements of HIV prevention programs among out-of-school adolescents in Osun state, Nigeria.

**Methods**

**Study area**

Osun State is in South-western Nigeria and it covers an area of approximately 14,575 square kilometres with a projected population of 4,332,135 by the year 2015 (National Population Commission, 2001). Youths account for 35–40% of this population (National Bureau of Statistics, 2013). Osogbo is the state capital city. Osun State is divided into three senatorial districts and 30 Local Government Areas (LGAs). Osun State may be classified as being largely ‘a rural state’, with 19 out of the 30 LGAs being non-urban local government councils, accounting for 60% of the 1991 population. About 55% of the population live in rural areas while 45% reside in urban areas (National Population Commission, 2001).

The ethnic group in Osun State is the Yoruba, although there are also people from other parts of Nigeria in the State. Yoruba and English are the official languages. Economic activities are predominantly commerce and farming, the farmers produce food and cash crops. Transportation in the state is mainly by road. People of Osun State practice Christianity, Islam and Traditional religion (Osun State Agency for the Control of AIDS, 2016).

The Osun State Agency for the Control of AIDS with support from World Bank coordinates the multi-sectorial response to HIV/AIDS programs through various technical working groups saddled to facilitate data collection, analysis as well as to provide leadership and direction to all HIV/AIDS programmes in the State.
Study site
The study sites were the Local Government Areas (LGAs) where the Civil Society Organisations working on out-of-school youths were based. The local government areas were: Ife Central, Iwo, Odo-otin, Oriade, Ila, Osogbo, Boripe, Ilesha and Obokun.

Target population
The target populations for the intervention programme were the out-of-school youths in the 9 LGAs.

Study design
This was an intervention project carried out among out-of-school youths in Osun State. The Osun State Agency for the Control of AIDS (OSACA) as part of the HIV/AIDS Programme Development Project (HPDP) engaged four Civil Society Organizations (CSOs) namely; National Youth Network on HIV/AIDS (NYNETHA), Destiny Development Initiative (DDI), Hope for Family Development Initiative (HFDI) and Justice Development and Peace Makers’ Centre (JDPMC) for the programme. This was a two-year project implemented between the year 2014 and 2015. In addition, in-depth interviews with the CSOs involved in the project were conducted.

Sample size and technique
A total of 15,000 out-of-school youths were targeted for this intervention. Participants and beneficiaries were selected using purposive sampling technique. Participants for the In-depth interviews were recruited through a purposive sampling method, based on characteristics of interest as CSOs, availability and ability to provide relevant information on the project.

Description of the interventions
The Minimum Prevention Package for Intervention (MPPI) strategies were used to reach the target population: these are grouped as structural, behavioural and biomedical interventions. The specific activities conducted were:

Structural intervention – community dialogues, advocacy meetings and setting up linkage for referral
The community heads and stakeholders were visited to discuss the goal and objectives of the project towards reaching the out-of-school youths. The intended HIV prevention strategies were explained during the several meetings that were held to establish better rapport and enhance community participation and ownership. Advocacy visits were also conducted to establish necessary linkage between the staff of the health facilities and the project team to promote collaboration and proper care. Community dialogue was held to further strengthen and support institutions and to strategically integrate HIV prevention intervention through the project. Outreaches were carried out to reach the out-of-school youths within the 9 LGAs selected.

Behavioural intervention – peer educators’ recruitment and training
This involves the recruitment of peer educators who were majorly artisans. Some of these peer educators were also recruited from youth development organizations within the selected communities. Peer educators were trained using HIV prevention modules that were taught by health professionals. Each peer educator was expected to reach at least 10 peers in about 9 training sessions within 3 months using the HIV prevention modules. The importance of these training sessions was highlighted to them and proper attendance was ensured.
Biomedical intervention – HIV Counselling and Testing (HCT) and use of condoms

Biomedical interventions were the major efforts directed at the out-of-school youth in prevention of HIV/AIDS which includes HIV Counselling and Testing (HCT) and condoms uptake. The HCT was carried by trained HIV Counsellors and testing done by professionals. During the testing, counselling services were provided to clients and basic information on HIV and AIDS were discussed.

Monitoring and evaluation visits to project sites, desk review of the collated data from the trained peer educators were also carried out to ensure data quality for effective compliance to project goals and objectives.

Data analysis

Data were collected by the CSOs on various activities carried out as structural intervention, behavioural intervention and biomedical interventions using specifically designed data, collection and reporting tools. Data were entered into the District Health Information System 2 (DHIS2) platform and exported into Microsoft excel. The results were analysed using Microsoft Excel by comparing frequencies and percentages and they were presented in tables and charts. In addition, in-depth interviews were conducted among the selected CSOs and thematic analysis was done.

Ethical consideration

Prior to the commencement of the project, the proposal was subjected to a two-stage review and ethical approval to conduct the research was obtained from the National and State Ethical Review Committee of the Ministries of Health, Nigeria. Permission was obtained from the leaders of the identified groups where necessary. The criteria for selection of participants and beneficiaries included informed consent, voluntary declaration of participation in the project and the ability to provide relevant information.

Results

Quantitative data

The result of analysis of quantitative data from DHIS2 platform is shown in this section. The findings were presented based on the three MPPI levels of intervention: structural, behavioural and biomedical interventions. Five thousand nine hundred and thirty-four (5934) youths, comprising of 2818 males and 3116 females out-of-school youths were trained as Peer Educators (PE) in the selected LGAs. The overall population of peers reached during this intervention was 29,506.

Structural intervention

Table 1 shows the summary of activities in terms of structural indicators carried out during the entire project duration (2014 and 2015). A total of 263 community dialogues were held during the project. A total of 2406 community influencers participated in the community dialogue and most participant (82%) were recorded in the first year of the project (2014).

| Table 1. Structural intervention indicators. |
|---------------------------------------------|
| Year of assessment | Number of community dialogues held $n$ (%) | Number of Influencers who took part in the community dialogue $n$ (%) |
|-------------------|---------------------------------------------|
| 2014              | 216 (82)                                    | 1978 (82.2)                                           |
| 2015              | 47 (18)                                     | 428 (17.8)                                            |
| Total             | 263                                         | 2406                                                   |
A total of 8910 peers were registered during this intervention. About 77% of the total numbers of peers registered were in 2015 while the number of peers reached within the period of the project was also higher in 2015 (64.1%). (Table 2)

**Biomedical intervention**

About 60% of the male condoms were distributed in 2014. Also more female condoms (51.3%) were distributed in 2014 than 2015. A total of 15,984 out-of-school youths had HIV counselling, were tested and received results during the years under review, more people were counselled, tested and received results in 2014 (60.6%) when compared to 2015 (Table 3).

**Coverage of MPPI, HCT and the prevalence of HIV infection among the out-of-school youths**

During this project, a total of 19,126 (64.8%) youths were reached with the three stages of MPPI strategies for HIV prevention out of the total number of 29,506 out-of-school youths contacted in Osun State, Nigeria. Of the 19,126 out-of-school youths reached with MPPI, 15,984 (83.6%) of them were reached with HCT and were counselled, tested and received results, of these 167 tested positive for HIV infection giving a prevalence rate of HIV of 1.05% among the out-of-school youths in Osun State, Nigeria (Figure 1).

**Table 2. Behavioural intervention indicators.**

| Year of assessment | Number of peers registered n (%) | Number of peers reached n (%) |
|--------------------|----------------------------------|------------------------------|
| 2014               | 1980 (22.2)                      | 9860 (35.9)                  |
| 2015               | 6930 (77.8)                      | 17,629 (64.1)                |
| Total              | 8910                             | 27,489                       |

**Table 3. Biomedical Intervention Indicators: Condom uptake and HIV Counselling and Testing (HCT) among out of the school youths in Osun State, Nigeria.**

| Year of assessment | No of male condoms distributed n (%) | No of female condoms distributed n (%) | No of persons counselled tested and receive results n (%) |
|--------------------|--------------------------------------|----------------------------------------|----------------------------------------------------------|
| 2014               | 19,895 (60.0)                        | 3029 (51.3)                            | 9692 (60.6)                                              |
| 2015               | 13,290 (40.0)                        | 2877 (48.7)                            | 6292 (39.4)                                              |
| Total              | 33,185                               | 5906                                   | 15,984                                                   |

**Figure 1.** Coverage of MPPI, HCT and the prevalence of HIV infection among the out-of-school youths in Osun State, Nigeria.
Table 4. Civil Society Organisations (CSO)/Community Based Organisations (CBO) working on out-of-school youths, with their Local Government Areas (LGAs) and Targets.

| S/N | Local Government Area (LGA) | Civil society organisation/community based organisation | Target Given | No of out-of-school youth reached |
|-----|-----------------------------|---------------------------------------------------------|--------------|----------------------------------|
| 1   | Ife Central LGA             | National Youth Network on HIV/AIDS (NYNETHA)           | 5000         | 5000                             |
|     | Iwo LGA                     |                                                         |              |                                  |
|     | Odo-Otin LGA                |                                                         |              |                                  |
|     | Ife Central LGA             |                                                         |              |                                  |
|     | Iwo LGA                     |                                                         |              |                                  |
| 2   | Osogbo LGA                  | Justice Development and Peace Makers’ Centre (JDPMC)   | 3500         | 3997                             |
|     | Ilobuk LGA                  |                                                         |              |                                  |
| 3   | Oriade LGA                  | Destiny Development Initiative (DDI)                   | 3500         | 3886                             |
|     | Ilesha LGA                  |                                                         |              |                                  |
| 4   | Boripe LGA                  | Hope for Family Development Initiative (HFDI)          | 3000         | 3113                             |
|     | Ila LGA                     |                                                         |              |                                  |
|     | Total                       |                                                         | 15,000       | 15,996                           |

Qualitative study

Participant of the in-depth interviews were the representatives of the CSO who were beneficiaries of this programme.

Description of CSO in terms of location and services provided

The location and the description the services provided by the civil society organisations or the community based organisations are summarized in Table 4. Major activities of the HPDP project in Osun State included:

Advocacy visits to the stakeholders in the LGA and social mobilization to encourage community participation in the programme. The stakeholders visited were the community heads, proposed referral centres and the heads of different artisan groups, e.g. barbers hairdressers, mechanics and commercial motorcycle riders. The artisans were also met during their monthly meetings. A CSO explained:

For the out-of-school youths, majorly, at the beginning, we paid advocacy to some stakeholders like religious leaders, community leaders, leaders of artisan groups like barbers and all that. Usually, we conduct social mobilization during their meetings …. we also trained some of them as peer educators on HIV and AIDS. (CSO 2)

HIV Counselling and Testing (HCT) activities gave the out-of-school youths the opportunities to know their HIV status. Test Kits were provided free of charge by the Osun State Agency for Control of AIDS (OSACA) and those who tested positive for HIV were linked to the referral centres for treatment. One of the CSO also said:

OSACA usually gives us kits when we go out for social mobilization. The test is not compulsory. It is a voluntary test. After the social mobilization and awareness creation, for those that want to be tested, we carry out test for them and for those that are positive, we refer them to Asubiaro State Hospital and we do refer to LAUTECH Teaching Hospital too …. And that in Obokun area, we refer to General Hospital in Ijebu-Ijesa …. Even out of the out-of-school youths that we trained as peer educators, we got a positive HIV result from them. And he is doing fine now … (CSO3)

Emerging themes from the thematic analysis

The major themes from the thematic network analysis of the qualitative data from the interviews with the CSO highlighted the achievements, strengths, weaknesses, significant contributions and challenges of the HPDP funded by World Bank among out-of-school youths in Osun State, Nigeria. The respondents also gave their suggestions for the project.

The achievements of the HPDP among Out-of-school youths include reaching more that the targeted number of out-of-school youths. The 4 CSOs working on the out-of-school youths were given a target to reach 15,000 out-of-school youths for the HPDP programme and they surpassed the target given. In the words of one of the coordinators of CSO, ‘We were able to meet our target of 3500 out-of-school youths and we even surpassed it’ (CSO 2). Further discussions revealed that educational support, nutritional support, increased awareness about HIV/AIDS, referrals of HIV positives clients to the nearest
health facility, educational support, increased condom uptake, enhanced communication with the youths during and after the programmes were the services rendered by the CSOs to the Out-of-school youths. One of the CSO said:

First, our key achievement was that we were able to bring back the youth friendly centre in Ile-Ife. We made sure that at every meeting, they talked about HIV. So, it has become part of their meeting agenda because the chairman of the barbers is the person coordinating peer educators while the chairperson of the hairdressers is the assistant. (CSO1)

Another achievement of the programme is opportunity to get tested for HIV infection and acceptability of the screening test for HIV. Another CSO explained that:

In the past, people were being sceptical about having to come out and do the test, most especially HIV test. With this program, we had a lot of people willing to know their status. And the clients that tested positive to HIV were grateful that the programme was helpful and that if not for the programme … they wouldn’t have discovered because there is a saying that it is better to discover HIV than HIV discovering you because once you discover it, some can quickly address it. (CSO4)

The major strength of HPDP is the increased awareness of HIV prevention among the out-of-school youths that encouraged sustainability of the programme with the material provided. When the project ended, the CSO were able to sustain some activities such as monthly meetings with the peer educators to provide avenue to discuss their challenges, monthly outreaches, supervisory meetings, follow-up on HIV positive clients and also provision of nutritional, financial and moral supports for the HIV positive clients. One of the CSO explained that:

Well, for our organisation, since the programme ended, we continued with what we call self-help project … although, it is limited to centres where we worked within Osogbo Local Government …. we still carry out outreaches to the out-of-school youth with the use of those materials. (CSO3)

The most important weakness of the HPDP among the out-of-school youths was lack of a continuity plan; there was no government agency to take up the good initiative provided by HPDP when the project ended. One of the CSO complained that:

There was no plan for any action after the project. The post project activities was the initiative of the CSOs, it was not in the agreement signed … If we don’t follow up our Peer educators, the behavioural change we expect after the project may not be sustained. (CSO2)

Challenges faced during the HPDP by the CSOs

The major challenge pointed out by the CSOs was majorly financial constrain. The budget for the programme was cut down severally leading to inability to carry out as much community projects as the CSO would have preferred. One of the CSO said ‘we were supposed to present four community projects to the four local government areas, but we presented only two due to fund constraint’ (CSO 2). Also unavailability of test kits at some periods during the programme was pointed out. The hospital bureaucracy at the referral centres was another major difficulty faced by the CSO, the industrial strike actions at some of the referral centres also made the health care services not accessible at some time. A CSO complained that ‘… getting the clients with positive results for confirmation test was a problem. There were a long waiting time and occasionally, industrial strike actions at some of the referral centres’ (CSO 3).

Suggestions by the CSO on how to improve the programme in the future include establishment of comprehensive centres in the State where positive clients will have easy access to care and upgrading of the existing ones. It was also suggested that more financial aids should be provided for the youths and that a well laid out continuity plan should be established.

Discussion

The Nigerian version of the combination prevention approach – The Minimum Prevention Package Initiative (MPPI), entails the strategic, simultaneous use of different classes of prevention activities (structural, behavioural and biomedical) that operate on multiple levels (individual, community and societal/structural), to respond to the specific needs of particular audiences through engagement
of the affected communities. The MPPI was reported as a successful strategy in some previous studies (Bessinger, Chan, Longfield, Aung, & Rahman, 2007; UNICEF, 2004) thus, the HPDP in Osun State employed the use of these interventions to achieve a comprehensive prevention.

As more community dialogue sessions were held, more community influencers who were the participants were trained. This result is consistent with the findings of a similar study carried out among out-of-school youths in Nigeria (Adelekan et al., 2017). Community entry and advocacy which are important component of the structural intervention is important to ensure acceptance and ownership of a programme.

The behavioural component of the intervention focused mainly on the recruitment of peer educators who trained other peers. In order to maintain healthy sexual behaviours, change of risky sexual behaviours, and modify norms, peer-led HIV interventions that involved members of a specific at-risk group were found to be effective in this study. Compared to professional health care providers, using peer educators was less expensive, and the acceptance of the programme was more. In addition, peer-based interventions have become a common method to effect important health-related behavioural changes and it is one of the most widely used strategies to address the HIV/AIDS pandemic (Medley, Kennedy, O’Reilly, & Sweat, 2009; Tolli, 2012). As more peer educators were registered, more peers were reached and this result is similar to the findings of a previous intervention models (Adelekan et al., 2017).

HIV Counselling and Testing (HCT) is the key entry point for many HIV prevention interventions and is essential for access to care and treatment. Regardless of HIV acquisition route, underutilization of counselling and testing services results in late diagnosis and increasing uptake of HCT will lead to early diagnosis, more effective care and treatment, reduction in transmission of HIV infection and improvement of health outcomes, thereby decreasing morbidity and mortality. Biomedical intervention in this project included HIV counselling and testing, and condom uptake. From this project, less proportion of people had the HCT done in the year 2015 compared to the preceding year, this finding is inconsistent with the previous study (Adelekan et al., 2017). Responses from the civil society organisations during the in-depth interview sessions revealed that this might be due to some periods of unavailability of test kits, this is a major shortfall as some out-of-school youths might be missed during this period.

According to a study in Ethiopia, a substantial proportion of out-of-school youths, especially males, were involved in unsafe sexual intercourse with non-regular partners. (Hibret, Damen, Kassahun, & Gail, 2007) Sexual initiation at an early age with limited insight as to the consequences and the low rate of consistent condom use were among the factors putting the youths at risk of HIV/AIDS. A study of clinic attendees in Ibadan, Nigeria showed that the peak prevalence of HIV infection was among those aged 21–30 years (Ekweozor et al., 1995). In this project, both male and female condoms were freely distributed to this vulnerable group. The findings of this study revealed that there was a general increase in male condom distribution in contrast to female condoms. This can be explained by the low acceptability associated with female condoms (Andrzej, Dhong-Jin, Ann, Denise, & Maurizio, 2004).

In Nigeria, the introduction of MPPI in the national response between 2007 and 2010 by the National Prevention Technical Working Group (NPTWG) marked a significant shift from numbers to quality service delivery. Interestingly, successes were achieved as a result of the paradigm shift as shown in the prevalence rate which reduced from 4.6% to 4.1% from 2008 to 2010, respectively (Federal Ministry of Health, 2010). The MPPI coverage among out-of-school youths in Osun State was about 65% although this is less than a coverage recorded in a similar study done in Nigeria (Adelekan et al., 2017), however, HIV prevalence of 1.06% among out-of-school youths in Osun State is less that the findings of the same study and this may be attributed to different factors in the two States.

One of the limitations observed during the evaluation of this intervention include missing data-sets on the DHIS2 platform, despite these limitations however; the study was able to identify the achievements and challenges of the HDPD among out-of-school youths in Osun State, Nigeria.

**Implication for programming**

The evaluation of the HIV prevention programme in Osun State showed some gaps in the programming and implementation process. Some of these were the challenges faced by the programme at different
points in the implementation process such as poor ownership of HIV interventions implementation leading to the non-continuation of the programme or poor funding from the State Government, improper coordination of the programme resulting in delays in implementation of activities, inadequate monitoring and evaluation system, lateness in the provision of HCT materials and disruption of the referral process to the health facilities by industrial strike action. Even though community dialogues were held and influencers were reached, there was still poor ownership of HIV and AIDS interventions by the community and the state government.

In view of the above-mentioned shortfalls in the programming process, the following can be recommended for improved programming of future HIV/AIDS prevention programmes. There should be integration of services with the primary health care services at in the communities and strengthening of monitoring and evaluation of HIV programmes to inform better practice of more detailed reporting. Proper training of the monitoring and evaluation officers will help to improve the quality of data uploaded to the DHIS2 platform.

There should be more engagement at all levels of governance to encourage political commitment and ownership of the HIV response with a view of ensuring sustainability through increased funding, resources mobilization and proper management for the HIV response at all levels. The State Government should take ownership of the programme by providing the necessary resources and there should be scaling up of HIV prevention activities in a cost-effective manner.

The HIV prevention intervention among the youths in Nigeria should include programmes which will engage them positively and promote their development. Programmes for out-of-school youths must address retention of at-risk youths in the educational system by improving their access to quality education, while providing scholarships and financial aid packages for them. The out-of-school youths should be given training opportunities that will enhance their cognitive, technical and life skills and prepare them for the informal labour market.

**Conclusion**

The HIV Prevention Development Project with support from World Bank has made tremendous efforts at reaching the out-of-school youths in Osun State, Nigeria based on the recommended MPPI, however there is still more to be done when considering the fraction of the out-of-school youths addressed with total estimated population size of the out-of-school youths in the State. There should be integration of services with the primary health care services, strengthening of monitoring and evaluation system, engagement at all levels of governance to encourage political commitment and there is a need to scale-up this programme.

**Acknowledgement**

The evaluation team acknowledges the World Bank and the Osun State Agency for the Control of AIDS (OSACA) for funding the evaluation and dissemination of the result of this project. We also like to acknowledge the civil society organisations for their cooperation during the in-depth interview sessions.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

**Funding**

Data analysis and publication of this article was supported by HIV/AIDS Fund (HAF) from HIV Prevention Development Project of World Bank through Osun State for the Control of AIDS (OSACA). The content of this article is the responsibility of the authors and does not necessarily reflect the views, analysis or policies of World Bank.
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