Review Article

Chronicles of challenges confronting HIV prevention and treatment in Nigeria

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Abstract

Background: Antiretroviral therapy reduces mortality and morbidity amongst people living with human immunodeficiency virus (HIV)/AIDS, improves their quality of life and reduces the potential to infect others. The goal of National Agency for the Control of AIDS is to achieve and sustain an AIDS-free Nigeria by 2030 hinged on its strategic framework. Achieving this goal is threatened by certain identified challenges.

Aim: This study is to review the contents of the national HIV and AIDS strategic framework in a bid to identify the challenges confronting its full implementation in the management of HIV in Nigeria.

Methods: Several published articles on HIV prevalence, factors influencing trend and spread, and sociodemographics of the affected were reviewed as well as three federal government of Nigeria national HIV and AIDS strategic framework. Articles were sourced from online indexes such as Medline; sampling about 60 peer-reviewed articles from which information relevant to the topic were retrieved. Publication by relevant bodies on HIV and AIDS was likewise reviewed, and relevant information was retrieved from them.

Results: Challenges identified include AIDS-related stigmatisation and discrimination, socio-cultural norms and practices, especially denial of women to inheritance and widow inheritance with its resultant feminisation of poverty and female genital mutilation, reduced funding following the withdrawal of donor agencies, anti-Lesbian, Gay, Bisexual, Transgender and Queer bias, bureaucratic and structural problems, as well as negative attitude of healthcare professionals.

Conclusion: The study concludes that achieving an AIDS-free Nigeria with zero new infection and zero. AIDS-related stigmatisation by 2030 will require mitigating against the aforementioned challenges.

Keywords: Human immunodeficiency virus, prevention, treatment, challenges, healthcare professionals, Nigeria

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INTRODUCTION

Human immunodeficiency virus (HIV) emerged between 1884 and 1924 in Central and Western Africa. It was believed to have crossed species from chimpanzee (HIV-1) and mangabey monkeys (HIV-2) into humans due to its similarity to the simian immunodeficiency virus found in these animals.[1-4] While tracing the history of HIV/AIDS, researchers analysed stored clinical samples collected as part of a large study of immune system genetics. Amongst

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these, anti-HIV antibodies were found in a serum taken in 1959 from a Bantu man who presented to the health facility at Kinshasa in the Democratic Republic of Congo (former Leopoldville, part of the Belgian Congo).[4,5] Transmission in humans is mainly through contact with infected blood and body fluids such as breast milk, vaginal secretions and semen. The virus targets the CD4 receptors on T-cells and other immune cells. Destruction of these cells result in a reduced capability to fight infections. The period between infection with the virus and disease progression to AIDS if untreated is usually between 10 and 15 years, though sometimes it may be longer.[6]

Ever since the emergence of the HIV epidemic in human history, the disease has spread throughout the world permeating through every class of people in the society, regardless of social status, race, age and colour. Nigeria has the second largest HIV epidemic in the world, second to only South Africa.[7] The prevalence of the disease amongst adults in the country is less (1.4%) than other Sub-Saharan African countries such as South Africa (19%)[8] and Zambia (11.3%),[9] with about 3.6 million of its population living with HIV in 2017. Nigeria accounted for 59% of all new HIV infections in West and Central Africa in 2016, i.e., 9% of the world's infection.[10,11] If not treated, the immunodeficiency that characterises HIV infection results in major morbidity and mortality from infections triggered by a wide range of microbes, especially opportunistic ones. This results in typical AIDS-defining infection of chronic ill health, recurrent diarrhoea, weight loss, cough, anaemia, fever and neurological deterioration.[12]

In the past few years, there have been collaborative international efforts to stem the spread of the HIV epidemic in the most affected countries globally through the initiation of programmes, such as the President's Emergency Program for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis and Malaria.[13] This culminated into the introduction of treatment and prevention programmes that has since increased access for a previously underserved population. Nigeria is one of the target countries for these earmarked programmes from donor agencies, which have over the years been supported by national leadership of the country. With the advent of antiretroviral (ARV) drugs for the treatment of HIV infection, life expectancy in people living with HIV/AIDS (PLWHA) has increased, as well as their quality of life; hence, they live longer and healthier.

As it is in most of the developing world where treatments of HIV are widely available, this study will extensively focus on the challenges involved in HIV treatment in Nigeria to supply the necessary information needed in planning future programmes in the country. In trying to achieve this, this study will review several studies that have been conducted on the subject of HIV in Nigeria, especially the prevalence of HIV in Nigeria, HIV counselling and testing, treatment, care, support and adherence to treatment.

OVERVIEW OF HUMAN IMMUNODEFICIENCY VIRUS PREVALENCE IN NIGERIA

Nigeria is the most populous country in the African Continent and the largest country in West Africa, with a population of about 205 million people.[14] With a prevalence rate of 1.4% (1.9% amongst females and 0.9% amongst males), substantially lower than the previous estimate of 2.8% arrived at based on the combination of periodic epidemiological surveys – Antenatal Clinic (ANC) Sentinel Surveys, National HIV and AIDS and Reproductive Health Surveys, Nigeria Demographic Health Surveys, and Integrated Biological and Behavioural Surveillance Surveys, about 1.9 million Nigerians are estimated to be living with HIV as at 2018.[15,16] Estimating the actual prevalence rate was done via Nigeria HIV/AIDS Indicator and Impact Survey, a large population-based HIV/AIDS household survey carried out by The Government of Nigeria, with the support of The U.S. PEPFAR, The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and other development partners with technical assistance from the US Centers for Disease Control and Prevention (CDC).[17] HIV prevalence in Nigeria has a mixed epidemic spread; some groups still carry a far greater HIV burden when compared to the rest of the population. The prevalence was higher amongst adults than children aged 0–14 years wherewith a prevalence of 0.2% was reported. A prevalence higher than the national average was noted amongst females aged 35–39 years (3.3%) and males aged 50–54 years (2.3%). Gender disparity was also reported in the prevalence, especially amongst younger adults, with females aged 20–24 years having four times the prevalence of males in the same age group.[17] Young females have been noted to have a higher HIV prevalence and are infected earlier in life than males of the same age group.[18] Research has reported that in 2016, more than 46,000 young women were infected with HIV compared to 33,900 young men while 58% of the PLWHA are women.[19] United Nations International Children's Emergency Fund reported in 2016 that 240,000 young people aged between 10 and 19 years were living with HIV, making up 7% of the total number of people with HIV in Nigeria. An estimated 1.8 million children in Nigeria were orphaned by AIDS, which have a massive impact on their safety, health and well-being. It was further discovered that about 20% of such orphans and vulnerable children (OVC)

do not attend school regularly and about 18% are sexually abused.[18,20] Research has also shown that of the 220,000 children up to 14 years of age in Nigeria living with HIV, only 26% were receiving ARV treatment.[18] HIV prevalence likewise varies amongst geographical location, with different states within the country reporting varying rates [Figure 1]. A rate of 5.5% was reported in Akwa-Ibom, 5.3% in Benue, 1.3% in Kano and 1% in Kogi and Kwara state.[17] The highest rates were found mostly in FCT (1.5%), Anambra (2.4%), Benue (4.9%), Bayelsa (1.8%) and Akwa-Ibom (5.6%) states in the country.[16] These remarkable variations in prevalence rates amongst the states could have resulted from cultural differences, differences in literacy level, as well as differences in religious and socio-economic factors. Some socio-cultural and religious practices amongst the various ethnic groups in Nigeria increase vulnerability to HIV acquisition and transmission; such practices include but not limited to multiple sex partners, female genital mutilation (FGM), unattended home child delivery, tribal marks, tattooing and unsterile traditional bloodletting, entertaining visitors to the home with wife and sleeping with virgins to cure sexually transmitted infections.[21]

High-risk groups such as female sex workers (FSWs), men who have sex with men (MSM) and people who inject drugs (PWID) are responsible for about 32% of new infections in the country, while the low-risk groups are responsible for 'maintaining' the epidemic.[22] Such low-risk groups are co-habiting or married heterosexual partners.[17] PWID account for 9% of new HIV infections in the country yearly which is as a result of needle sharing.[7] Currently, in the country, MSM are the only group of individuals with increasing HIV prevalence and they contribute to 10% of new infections.[23] In 2017, the prevalence in this category of people stood at 23%,[18] while 14.4% of FSWs in the country were living with HIV which is a significant drop from 2013 figure estimated at 24.5%.[10]

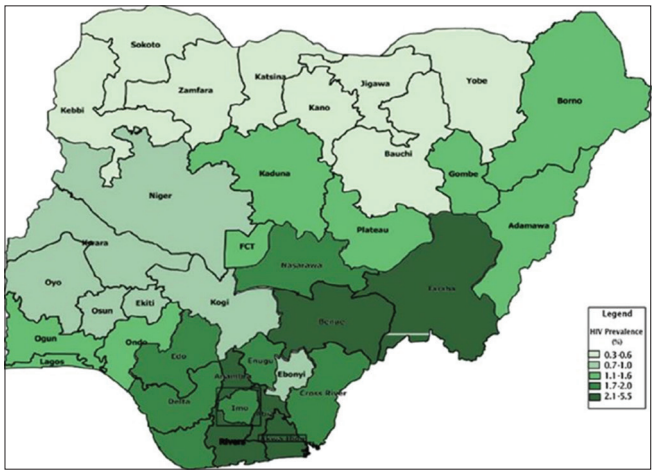

Figure 1: Human immunodeficiency virus/AIDS prevalence by states in Nigeria, 2019[144]

Compared with the general population, HIV prevalence amongst FSWs in the country is eight times higher, higher still in the brothel-based sex workers (prevalence of 27.4%)[24] than the general population.[20,25] HIV prevalence amongst IVD (intravenous drug) users in Nigeria vary with sex and is higher in female IVD users (13.9%) than male users (2.6%) with a rate of 3.4% on the average. FSWs who inject drugs have the highest HIV prevalence of about 43%.[18,26]

METHODS

The study was a review of available literature on the challenges confronting HIV prevention and treatment in Nigeria. Several published articles on HIV prevalence, factors influencing trend and spread of HIV, HIV treatment and prevention in Nigeria and sociodemographics of the affected were reviewed as well as the Federal government of Nigeria (FGN) national HIV and AIDS strategic framework for 2017–2021. Articles were sourced from online index such as Medline, AJOL, OVID, PubMed and Scopus. About 60 peer-reviewed articles were sampled from which information relevant to the topic were excluded while articles found not relevant to the topic were exempted. Publication by relevant bodies on HIV and AIDS such as the World Health Organization (WHO), CDC, Nigerian Federal Ministry of Health, United Nations Children's Emergency Fund, Joint United Nations Programmes on HIV/AIDS and National Agency for the Control of AIDS (NACA) was reviewed and the relevant information was also retrieved from them. The terms used in searching were HIV, stigmatization and discrimination, prevalence, Nigeria and LGBTQ used singly or in combination

HUMAN IMMUNODEFICIENCY VIRUS COUNSELLING AND TESTING IN NIGERIA

The WHO's interventions for HIV prevention focused on key areas such as voluntary counselling and testing (VCT) as the entry point to treatment, prevention and comprehensive programmes to prevent HIV/AIDS infection amongst infants, women and young people. Available data have, however, shown that a comprehensive coverage of VCT is particularly poor in countries with the highest HIV/AIDS burden.[27] Despite the fact that access to VCT is crucial for successfully implementing ARV treatment and averting re-infection and transmission through behavioural changes, some researchers have revealed that VCT is lacking in most regions of Africa, and where present, suboptimal service delivery is the hallmark.[28,29] Across Nigeria, HIV testing

rate is quite low as only 15.1% of people aged between 15 and 49 years had tested in the last 12 months and knew their results.[30] This is short of the national targets which commit to a 90% treatment coverage and a 50% testing rate amongst young people by 2020.[20] Negative and discriminative attitude of health providers towards young people and their sexual activities, limited access to user-friendly services, lack of functionally knowledgeable, HIV competent youths and the fear of stigma are few contributory factors to the low testing rate.[20]

According to the UNAIDS 2019 Report, 67% of adult PLWHA were aware of their status, of which 53% are on ARV therapy (translate to 52% of all people living with HIV) and 80% (translate to 42% of all people living with HIV) of them are virally suppressed.[31] This is far from the goal of FGN National Strategic Framework (NSF) guiding the management of HIV infection, aimed at achieving an AIDS-free Nigeria with zero new infections by 2030. The strategies proposed in this guideline re-centred around preventing new infections by protecting all at risk of infections, such as the unborn child, measures to suppress the virus in those who are infected so as not to infect a new person, as well as provision of care and support for the PLWHA so as to ensure an improved quality of life. Measures to suppress the virus in PLWHA are aimed at achieving 90-90-90 by the year 2020 and 95-95-95 by the year 2030, that is, ensuring 90% of all people living with HIV know their HIV status; 90% of all people with diagnosed HIV infection receive sustained ARV therapy and 90% of all people receiving ARV therapy have sustained viral suppression by the year 2020 which will be further enhanced to 95% of PLWHA knowing their status; 95% of infected are started on ARV therapy and 95% of all on drugs are virally suppressed.[7,16]

Surveys have also shown that only 60.4% of women and 70.8% of men knew where they could go to be tested for HIV.[20] As a result of this, more locations where people can get counselled and tested were created, i.e., HIV Testing and Counselling (HTC) locations, resulting in a cumulative increase in the proportion of PLWHA from about 1000 in 2010 to more than 8000 in 2014.[20] This is however far from the projected 23,600 testing sites target in the NSF, aimed at serving 60% of the general population, 100% of key populations (who are at highest risk of HIV infection) and children of mothers living with HIV.[7]

NATIONAL HUMAN IMMUNODEFICIENCY VIRUS INTERVENTION PROGRAMMES IN NIGERIA

Nigeria has a high HIV burden, the second highest infection burden in the world. About 9% of PLWHV globally, 10% of new HIV infections in the world and 14% of HIV-related deaths in the world are from Nigeria.[32] To address this high HIV burden and its effect on global HIV statistics, Nigeria needs to institute an effective national response to the epidemic, aimed at preventing infection in the previously uninfected and ensuring the health and well-being of those infected and affected by HIV, hence the FGN NSF. The NSF provided a structure and a plan for advancing the national response to the epidemic in the country.[21] The goal is to end AIDS in Nigeria by 2030 while incorporating the 95-95-95 strategy, test and treat mechanism, sustainable development goals and the Option B+ model for the elimination of mother-to-child transmission (eMTCT).[16]

In achieving this goal, the NSF identified five thematic areas and highlighted strategies specific for the successful implementation of the objective of each thematic area. These themes are (i) prevention of HIV amongst general and key populations in a bid to significantly reduce the incidence of new HIV infections by 2021; (ii) HIV testing services to be increased so as to enable 95% of people living with HIV to know their status; (iii) eMTCT of HIV; (iv) HIV treatment access such that all diagnosed people living with HIV (PLHIV) receive quality HIV treatment services, and at least 95% of those on ARV achieve sustained virological suppression and (v) HIV care, support and adherence to improve access of PLHIV, vulnerable children (VC) and people affected by HIV/AIDS to comprehensive rights-based care.[16]

The key strategies for the delivery of identified targets under each theme involve a three-pronged approach – biomedical, behavioural and structural approach.[21] The biomedical approach involves interventions to prevent new HIV infections and involves widespread provision of condom at subsidised rate if not free,[16] continued messaging for HIV testing at a care providing facility or self-testing, sexual and reproductive health interventions such as provision of contraceptives and diagnosis and treatment of STDs, prevention of MTCT (PMTCT) of infection by preventing infection in pregnancy, prevention of infection in breast-feeding females, early infection diagnosis in exposed infants, provision of pre-exposure prophylaxis (PrEP) for sex workers, especially male, and provision of sterile needle and syringe for PWID in a needle and syringe programme.[33]

Behavioural approach involves adoption of HIV risk reduction behaviours, on the premise that behavioural change is a function of the knowledge base of an individual on a particular subject. For persons, especially youth, to successfully adopt a risk reduction behaviour,

they must be functionally knowledgeable about HIV/AIDS vis-a-vis correctly identifying its risks, mode of transmission, prevention and treatment. This approach involves correct and consistent condom use; having one HIV-negative, faithful partner; correct information about HIV transmission via Family Life HIV and AIDS Education, Social Media and Traditional Media to disseminate HIV information and network of PLWHA in Nigeria and their support groups to disseminate information and educational products to members about their health needs, which in turn empower them to demand HIV services.[33,34]

Structural approach recognises that success in the other intervention strategies hinges on a firm community structure, hence advocates for strengthening of formal and informal community-level structures such as PLHIV networks and support groups, mentor mothers, traditional birth attendants, as well as community and religious leaders, who can pass across basic and simple messages and information on HIV/AIDS to their people at the community level in a language and format they understand. These community and religious leaders can lend support as well as monitor home-based care and support services.[33,35]

Of all these intervention strategies, some that have been identified as crucial are given below.

Consistent and correct condom use

The aim of the NSF is for at least 90% of people embrace consistent and correct use of the condom, especially the unmarried and the young, the categories of individual likely to engage in adventurous and risky sexual activities. The WHO recognises condom use as a key strategy in HIV prevention.[36] The latex condom is a sheath-shaped barrier device used during sexual intercourse to prevent unwanted pregnancy as well as protect against sexually transmitted infections (STIs).[37] Reduction in the probability of HIV transmission per sex act by as much as 95% and reduction in the annual HIV incidence in serodiscordant couples by 90%–95% have been reported following consistent use of the condom. Its efficacy in preventing HIV transmission is a function of consistency in its use.

Likelihood of condom use varies depending on the type of relationship or partnership between users.[38] People are selective in the type of relationship in which it is used; most people associating its use is due to lack of trust and intimacy. It was hence reserved for risky sexual endeavours and when the partner is not regular.[39] In a survey of women in selected African countries, low level of condom use was noted when the sex partner is the usual or regular partner despite the HIV epidemic in the countries. Inconsistent use also characterises such relationship except if one partner is HIV positive.[40,41] If there was casual sex incident or commercial sex partnership, high level of condom use was noted.[41]

Few studies done in Nigeria amongst youths aged 15–24 years showed a low level usage of condoms in both sexes, ranging from 10.7% to 20.6%.[42] Even few who use the condom do so occasionally; reasons given for the low usage include poor pleasure, partner's insistence on not using, and paying little attention to the risk of STI which the lack of use exposes them to.

Identified hindrances to condom usage include cost, non-availability, religion, culture and tradition. Even when access is guaranteed, use is still low especially amongst married couple and individuals in steady regular relationship.[39] This group maintains the HIV epidemic as they are at risk of infection even though low; hence, the NSF strategy intends to focus on the increase of condom use amongst young people and the unmarried, at least 90% people by 2021.

Pre-exposure prophylaxis

A key tool in curbing the spread of HIV is the use of PrEP in the high-risk groups such as HIV-negative partner in a serodiscordant couple, FSWs, male sex workers (MSWs) and victims of rape. In Nigeria, less than 400 people at the highest risk of infection are using PrEP. According to the UNAIDS, only 364 people received PrEP drugs in 2017.[43]

As stated in the Nigerian government national HIV guidelines for the management of infection, the HIV-negative partners of a serodiscordant couple should be offered PrEP. What is obtainable, however, is that such individuals are counselled, tested and offered condom.

HIV treatment programme in Nigeria was largely donor dependent; the federal government contributes 5%, global fund gives 25% and PEPFAR contributes 75%.[44] This trend is gradually being reversed as donations from donor countries and donors is gradually reducing, while the government commitment to funding the programme is on the increase. As of 2015, 57% of needed funding was supplied by the federal government with a pledge of further increase in the funding delivered in 2019.[45] These donors provided ARV free for patients, but PrEP is not included in the package offered to the country. If PrEP is to be included, it will be funded by the federal government. The capability of which is queried as the government will rather increase funding to provide ART for the infected than PrEP

to prevent infection in the exposed. In Kenya, domestic funds from public coffers plus financial support from local and foreign partners have made it possible for PrEP to be distributed for free to those most at risk; a similar arrangement exists in South Africa. Nigeria's government however has no provision for PrEP financing.[46]

With the new national strategies for HIV prevention and care in Nigeria, imminent expansion of the programme will focus on provision of PrEP for serodiscordant couples, persons who inject drugs, commercial sex workers and persons who are involved in anal sex on a protracted and consistent basis.[47]

Human immunodeficiency virus education

About 22% of adolescents and 27% of young people have comprehensive HIV knowledge in a National HIV Strategy for Adolescents and Young People carried out in 2016; 28.86% of women and men aged 15–24 years correctly identified the ways of preventing the sexual transmission of HIV according to the UNAIDS in 2018[48] with a yet lower rate in rural areas as they are isolated from enlightened outside world. This low level of knowledge is a function of their source of information: social normative barriers that discourage adolescents and young people from seeking information from reliable sources.[49] To straighten out some of their misconstrued ideas, inclusion of Family Life HIV and AIDS Education into school curriculum was advocated, with dedicated tutors to better inform students on basic facts about HIV transmission, risk, prevention, treatment and control as well as more multifaceted concerns such as stigmatisation and gender-based violence. About 48,500 schools are involved in the programme, with the hope that access to this education will expand to many more schools in the country with time.

Prevention of mother-to-child transmission

In realising the aim of zero new infections, transmission of HIV infection from mother to child must be prevented. MTCT is a continuous source of new infection as it accounts for 90% of new infections amongst children in Nigeria, i.e., over 25% of new infections amongst children globally.[50,51] Nigeria accounts for 30% of the global burden of MTCT of HIV. MTCT is defined as the transmission of HIV from a HIV-positive mother to her child during pregnancy, labour, delivery or breastfeeding.[52] The rate of MTCT transmission ranges from 15% to 45%, which decreased to <5% with the advent of intervention strategies instituted during pregnancy, labour, delivery and breastfeeding. These interventions, referred collectively to as PMTCT of HIV, include ARV therapy for the mother, a short course of ARV drugs for the baby and safe feeding practices for the HIV-exposed infant. The 2006 CDC guidelines for PMTCT proposed starting ARV prophylaxis in the third trimester (28 weeks) of pregnancy. They recommended a regimen of twice daily zidovudine (AZT), single-dose nevirapine (NVP) at onset of labour, a combination of AZT + 3TC during delivery and 1-week postpartum, as well as infant prophylaxis for 1 week after birth.[53] An upgraded version released in 2010 advised on commencing ARV at about 14 weeks gestational age using either twice daily AZT for the mother and infant prophylaxis with either AZT or NVP for 6 weeks after birth with daily NVP infant prophylaxis to be continued for 1 week after the end of the breastfeeding period in breastfed infants, or a three-drug prophylactic regimen for the mother taken during pregnancy and throughout the breastfeeding period, as well as infant prophylaxis for 6 weeks after birth, whether or not the infant is breastfeeding.[54] Combined with improved infant feeding practices, these new guidelines can help reduce both child mortality and new HIV infections, virtually eliminating paediatric HIV.

PMTCT programme in Nigeria is started in 2001, in six tertiary hospitals[55] with the goals of providing effective PMTCT services for women in the reproductive age group in selected health facilities, while providing useful information for policy formulation and decision on intervention for comprehensive PMTCT in Nigeria.[56] As of 2012, 1320 facilities offered PMCTC services, which increased to 7265 by 2015.[7,55] This is less than the targeted 23,000 testing sites needed to provide universal coverage. To this end, Nigeria purposes to have 95% of health facilities in the country providing PMTCT services by 2021.[7] There is a need to scale up the available PMTCT services, but limited human resources, suboptimal healthcare system and limited funding for PMTCT are few of the challenges mitigating against scaling up the programme.

The rate of MTCT has remained high, at an estimated at 22% in 2016.[57] Despite the high burden and effect of MTCT of HIV, only 32% of pregnant women living with HIV accessed ART in PMTCT.[6,10]

Eliminating MTCT of HIV, high ART coverage amongst HIV-positive pregnant women is crucial. By 2021, the NSF targets 95% coverage of pregnant HIV-positive women. To achieve this, a four-pronged approach is proposed which include providing primary prevention of HIV infection amongst women of child-bearing age; preventing unintended pregnancies amongst women living with HIV; preventing HIV transmission from women living with HIV to their infants (access to ARV for both mother and exposed infant) and providing appropriate treatment, care

and support to mothers living with HIV and their children and families.[54]

To achieve this, at least 95% of pregnant women should have access to quality HTC by 2021, at least 95% of all HIV-positive pregnant women and HIV exposed infants have access to more efficacious ARV prophylaxis by 2021, at least 95% of all HIV-exposed infants have access to ARV prophylaxis by 2021, at least 95% of HIV-positive pregnant women have access to quality infant feeding counselling and at least 95% of all HIV-exposed infants have access to early infant diagnosis (EID) services by the 2nd month of birth by 2021.[16] These targets are far from being achieved as 34.7% are tested during pregnancy at ANC,[10] 44% had access to ARV during pregnancy,[48] 15.44% of exposed infants were on ARV prophylaxis, 18% of exposed babies were diagnosed early at birth and had access to EID within 2 months of birth.[19,48,58]

HUMAN IMMUNODEFICIENCY VIRUS TREATMENT, CARE SUPPORT AND TREATMENT ADHERENCE IN NIGERIA

HIV treatment reduces mortality and morbidity amongst people living with HIV and improves their quality of likelihood of transmitting infection to others. HIV treatment programme is centred on increasing PLWHA's access to ARV therapy and provision of adjunct treatment modalities such as isoniazid prophylaxis for tuberculosis prevention and co-trimoxazole prophylaxis to reduce risk for other opportunistic infections.[59] The programme also provides screening and therapy for tuberculosis, new infection or relapse, in all PLWHA.

More importantly, HIV treatment programme promotes the principle of differentiated care, which is responsive, is client focused, simplifies and adapts HIV services across the cascade, with a view to increase access and quality of ART services as well as retention in care. Since 2005, the decrease in the number of annual AIDS-related deaths has been minimal, which may be because only 52% of HIV positives are accessing ARV treatment.[18] In the same vein, Nigeria has the second lowest percentage of ART coverage in pregnant women, and as such, MTCT of the infection still on the high side with its resultant mortality, especially amongst the paediatric age group. This may be why Nigeria has the highest new infections amongst children in the world.[55] As such, reducing MTCT remains a major target area in reducing new infections and disease prevalence rate as a whole.[10] So far, Nigeria is still far from meeting the global target of enrolling 95% of people diagnosed with HIV on ARV treatment as only 55% of adult PLWHA were receiving treatment as of 2018;[31,48] the figure is even lower amongst children as about 35% are enrolled for care of which only 24% had achieved viral suppression as of 2018.[10]

HIV and AIDS Care Support and Adherence programme is the rounded and comprehensive client-based community-centred care service provided by a multidisciplinary team at all stages of the HIV infection.[60] It is an essential part of the HIV and AIDS continuous sequence of management that eases access of PLWHA, people affected by HIV and OVC HIV care services outside healthcare facilities and retention of clients in care. The access of these aforementioned categories of people to HIV and AIDS care, support and adherence services has so far been facilitated by the Hub-and-Spoke model (integrated cluster system) adopted by the Federal Ministry of Health for the delivery of comprehensive healthcare for all Nigerians.[61] In this system, the tertiary facilities serve as the hubs for specialised services such as laboratory (discordant screening confirmation, hepatitis B and C screening, viral load testing, DNA PCR, etc.) and care and treatment related to complications of HIV infection, while the secondary facilities serve as spokes from the tertiary facilities and at the same time serve as hubs for the primary level of care by providing a different level of specialised services, such as blood chemistries, haematology, microbiology and chest X-rays. Thus, this approach recognises the potential impact the engagement of PLWHA-led organisations and the engagement of PLWHA in the delivery of care to their counterparts.

CHALLENGES CONFRONTING HUMAN IMMUNODEFICIENCY VIRUS PREVENTION AND TREATMENT IN NIGERIA

Stigmatisation and discrimination

Stigma is an undesirable or demeaning attribute that an individual possesses, that reduces the individual's status before the society.[62] Stigmatisation has been defined as an attribute that associates a person to undesirable characteristics,[63] while a stigmatised individual is someone who possesses some attributes that convey a devalued social identity in a particular social context.[64] Several authors have argued that stigmatisation can result to prejudicial thoughts, behaviours and actions on the part of co-workers of PLWHIV, their employers, friends and family, healthcare providers, their communities and even the government Therefore, stigmatisation remains a key barrier to the response to HIV campaign in Nigeria. A previous study once demonstrated how a large proportion of respondents in the study would not patronise a shopkeeper living with HIV in 2016.[10] Consequently, this suggests that the level

of stigmatisation in the country is high as acceptance of PLWHA is low.[65] There is therefore need for reorientation to disabuse this misconception in the mind of the populace to aid effective treatment for PLWHA in Nigeria.

Discrimination is an aspect of stigmatisation which affects treatment of HIV in the Nigerian society. Discrimination is referred to as a form of prohibition or restriction of expression and marginalisation or prevention of someone from access to something.[66] Over the years, both stigmatisation and discrimination have posed major obstacles to effective HIV prevention and treatment globally.[67]

In the context of HIV/AIDS, stigmatisation and discrimination are unique when likened to other sexually transmitted infections and communicable diseases because it tends to create a "hidden epidemic" of the disease grounded on socially-shared fear, ignorance, denial and misinformation in the society.[63,67,68] This is predominantly more extreme in the Sub-Saharan region in which Nigeria is no exception because a blend of weak health system is entwined with poor legal and ethical framework.[69] Hence, stigmatisation and discrimination result into seclusion, loneliness, identity problems, low self-esteem, lack of willingness to access HIV/AIDS treatment[67] and lack of motivation to practice prevention,[70] thereby limiting the effectiveness of HIV testing programmes.[60,63,64,71]

At level of the community, fear of stigmatisation and discrimination can cause pregnant women living with HIV to evade HCT which is the initial stage or step taken towards reducing MTCT.[72-74] In the same vein, nursing mothers for fear of what society will say or how family members will react when they do not breastfeed expose their infants to HIV,[75] because failure to breastfeed their babies can arouse suspicion of their HIV status. Sometimes, discriminative acts such as poor-quality services and counselling, premature discharge from hospital, isolation from other patients and segregation of hospital wards, labelling, lack of confidentiality and selective application of "universal" precautions are also found amongst some healthcare providers, thereby limiting the efficiency of treatment for HIV amongst PLWHA in Nigeria.[76]

Female genital mutilation

FGM is deeply entrenched in many cultures and justified on cultural grounds.[77-80] FGM can be medically harmful to the girl child causing complications such as sexually transmitted infections and a further avenue invasion of other diseases into the body such HIV/AIDs if the right precautions are not taken.[81-84] Research has shown that FGM increases the likelihood of HIV/AIDS transmission through increased exposure to blood in the vaginal canal.[85] It was further confirmed that FGM put women and girls at risk of contracting HIV as a result of the use of unsterilised tools such as knives and broken glass that are used during the procedure.[86]

Women's denial of access to family inheritance

This is predominant amongst many cultures in Nigeria, for family descent is mainly patrilineal in this part of the world.[87-89] In Nigerian statutory marriage, the inheritance law is governed by the Marriage Act of 1990 which provides that a widow can inherit part of her late spouse's property and estate including land. In reality, however, these women are sometimes denied access to this inheritance or allowed conditional access wherewith they are forced to remain in that family usually by being married off to another family member.[90-93] Inheritance under native law is primarily determined by the customary rules of the place of origin of the deceased person and not by where he lives or where the property is situated.[94,95] This follows to the primogeniture rule where inheritance or succession is through the first child, specifically the eldest son who as a result of this becomes the head of the family.[96] This leaves the widow with at the mercy of this "family head" who decides what she inherits from the late spouse, if she is to inherit anything at all, worse still if she is not the biological mother of the son or if the marriage to the deceased is not blessed with a child. The widow may end up being under financial stress and resort into any available means of survival such as transactional sex for money making them vulnerable to multiple sex partners and exposing them to sexually transmitted infections including HIV.[97] Many women who fall into this category are usually not economically empowered and as such vulnerable to depend on men to exchange sex for money.[98]

Widow inheritance

Widow inheritance is a cultural practice where a designated male member of the family assumes the responsibility of the social and economic livelihood of a widow following the death of her spouse.[86] Previous studies have demonstrated that widow inheritance is prevalent in many parts of Nigeria.[99-104] Widow inheritance is a customary practice amongst the Igbo, Yoruba and Hausa-Fulani and is still prevalent today in the rural areas.[105-108] The tradition of widow inheritance usually by a male relative of the late spouse has been identified as promoting spread of HIV/AIDS.[109] The act places both the man and the woman with different sexual histories at the risk of contracting HIV/AIDS.[109] Customarily, widow inheritance is practiced either for companionship, sexual fulfilment and economic support or for ritual sex performed to cleanse

the widow after the burial of the spouse, rites of passage accompanying the birth, marriage and death of close family members.[110-112] In such cases, women are not expected to negotiate safe sex with their partners, thereby lacking control in sexual decisions. Although widow inheritance is a common practice in the three major ethnic groups in Nigeria, i.e., Yoruba, Igbo and Hausa, it is more common amongst the Igbos[113] with the belief that a legal marriage should not be terminated even by death.[114]

Homophobia in Nigeria and the criminalisation of Lesbian, Gay, Bisexual, Transgender and Queer

The FGN under the leadership of President Goodluck Jonathan signed into law The HIV/AIDS Anti-Discrimination Act 2014 which makes it an offence to discriminate in any form against people based on their HIV status as well as provide protection of the human rights and dignity of people living with HIV and those affected by AIDS in Nigeria.[24,115]

This further made provision for access to healthcare and other services in addition to the prevention of HIV-related discrimination.[116] Enacting this law was meant to encourage the use of available care and support services previously hindered by fear of discrimination and rejection by family and friends and also eradicate discrimination fuelled by ignorance and its associated needless and preventable deaths.

In the same year, by the same President of the country, the Same Sex Marriage Prohibition Act (SSMPA) was signed into law.[117] This has purportedly increased attacks on the Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ), the attacks ranging from law enforcement agents arrest to torture, lynching and mob action against homosexual men and even death in some parts of the country.[117-120] Some have been disowned by family, and some fled the country for fear of arrest and prosecution as a jail term of 14 years awaits whoever is caught engaging in the act. The signing into law of this SSMPA has made life more complicated for this group of persons in the country as attacks against them are legally justified and backed.[117] In the face of all these oppositions, most LGBTQ persons cannot and do not disclose their sexuality.

The society however appears to have selectively exempted LGBTQ who are HIV positive from the HIV/AIDS Anti-Discrimination law as this group of people have to first battle to overcome homophobia which appears to be worse. Nigeria has been labelled the most homophobic country on the planet, with 98% of the population opposed to homosexuality[119,121] in the country, stating that it does not conform to their culture and it is against the teachings of the major religions in the country, Christianity and Islam.

Enacting the SSMPA law against the same sex in Nigeria has stood as a major barrier to accessing HIV prevention programmes for male and female homosexuals as their sexuality cannot be disclosed and discussed with their doctor, and their sex partners cannot be accessed and treated; hence, sustained infection and infection with a different strain of the virus is possible making treatment difficult and ineffective. Such unfriendly legal environments, stigma and discrimination based on sexual orientation and gender identity as well as violence against gay men are seriously detrimental to sustainable national responses to HIV as fear and discrimination impacted the provision of healthcare to LGBTQ persons, especially those infected with HIV/AIDS.[122] Many LGBTQ persons went underground some of which are known HIV positives on ARV, public appearances became a problem and hence access to treatment impaired.

Bias and discrimination against LGBTQ have force some into activities that further enhance the spread of HIV/AIDS.[123] Some, due to job loss, homelessness and employers not willing to employ them because of their sexual orientation, have been forces into transacting sex for money.[123]

A survey carried out by Kaiser Family Foundation in the United States showed that 15% of gay and bisexual men in the U.S. were treated poorly by a medical professional as a result of their sexual orientation, and least 30% did not feel comfortable discussing their sexual behaviours with a healthcare provider. Many are discouraged from getting tested or treated for HIV for the fear of harassment.[123]

It is therefore germane to increase effort to reach out to this minority in provision of testing services, treatment, adherence, care and support for them.

Poor funding of human deficiency virus treatment services

Being HIV positive about some years back was a death sentence, in the absence of ARV drug. In 2002, the Nigerian ART programme commenced, and by 2006, 15% of those who needed ART had access, which increased to 29% by 2012.[124-127] In 2004, donor agencies waded in to salvage the situation, notably PEPFAR and Global Fund for AIDS, Tuberculosis and Malaria. The required fund for the management of patients was 95% provided for by donors with the national government providing 5% of the fund.[44] However, recent years has seen a progressive decline in the

contributions of donors.[45] These necessitated the national government increasing its counterpart funding to fund its response to the epidemic. By 2015, domestic resources sourced from private and public funds accounted for 57% of the available HIV funding for the year[18,45] marginally exceeding the contributions from donors.

In a bid to increase domestic funding further, Nigeria has launched a new initiative to make each of the 36 states contribute up to 1% of their monthly allocations from the federal government to the HIV response. There has also been an attempt to increase private sector investment in the response from 2.1% in 2014 to 10% in 2018.[10]

The trending increase in domestic funding above donor has helped in fostering ownership and accountability in the implementation of the national HIV response, while at the same time, increasing their sustainability as donor dependence was creating sustainability challenge for the country.[45,128]

Of the estimated 2.3 million PLWHA eligible for ART, only about 38% received ART in 2015; these figure however increased considerably in 2016 following the WHO recommendations to treat all who tested positive to HIV, irrespective of their CD4 count.[129]

If the WHO recommendation is to be followed to the letter, funds will be needed to finance treatment, testing, follow-up, adherence, care and support of the infected. This is an issue of concern with the reduced donor funding. Some HIV-related services which were initially at no cost to patients have to be paid for, such as laboratory investigations, hospital registration, anti-opportunistic infection (anti-OI) drugs procurement and other unauthorised fees charged at some health facilities.[130-132] These out-of-pocket expenses can gulp as much as 14.5% of household income.[131] For the poor person, these extra expenses may be unaffordable for him/her, hence default in accessing treatment.

The Nigerian government has however announced plans to increase in its global counterpart funding for HIV/AIDS so as to sustain the HIV prevention and treatment initiatives to achieve the global aim of ending AIDS by 2030.[133]

Bureaucratic and structural issues

Decentralisation of healthcare has been proposed as a tool to attain universal coverage of HIV treatment services. It is believed that effective decentralisation of the HIV/AIDS treatment services in Nigeria would upshot in fewer bureaucracies, a split-up of functions and healthier matching of services in the primary healthcare facilities.

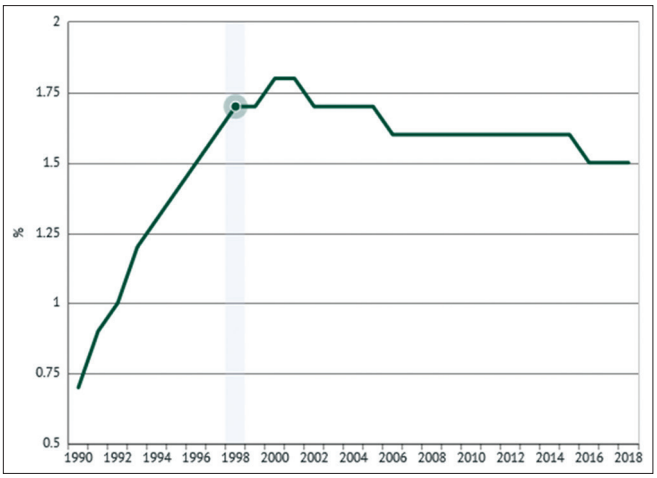

Figure 2: A description of human immunodeficiency virus prevalence trends in Nigeria from 1990 to 2018[145]

However, getting this implemented is confronted with difficulties in the ability of the Nigerian government to provide sufficient sites for HIV test, counselling and treatment. According to the NSF, in 2015, there were only 1078 facilities providing HIV treatment in Nigeria.[7] In addition to this is the problem of shortage of health workforce,[134-136] there are highly congested and poorly coordinated healthcare facilities[137] and knowledge gap amongst healthcare professionals.[138]

Negative attitude of healthcare professionals

The healthcare sector has been recognised as one of those areas where HIV/AIDS discrimination is prevalent.[139] This may have resulted from lack of in-depth knowledge on HIV and orientation about policies against stigma and discrimination.[140] Because HIV/AIDS-related issues usually arouse strong emotional reactions such as anxiety and withdrawal,[134] workers' attitude to such issues is usually informed by their level of preparedness or knowledge in care for people living with HIV. This tends to hinder both readiness and ability to embrace HIV preventive measures, access treatment and provision of care and support for people living with HIV.[141] Even though unreliable information submits that healthcare professionals in Nigeria may engage in discrimination against and stigmatisation of PLWHA,[142] a study conducted on AIDS-related stigmatisation by primary healthcare workers in a location in North Central in 2013 revealed that 98% of the health workers in the study observed discriminatory act against persons living with HIV.[143] Figure 1 shows the human immunodeficiency/AIDS prevalence by states in Nigeria 144 while Figure 2 gives a description of the human immunodeficiency prevalence trends in Nigeria from 1990 to 2018. [145]

CONCLUSION AND RECOMMENDATION

The study concludes that realising an AIDS-free society in Nigeria by 2030 in line with the NACA 2017–2021 strategic framework will not be feasible unless efforts are made towards alleviating the aforementioned issues and challenges. It therefore recommends that to mitigate the issues and challenges confronting HIV prevention and treatment in Nigeria, public enlightenment campaign to counter stigmatisation and discrimination of people living with HIV should be stepped up, while adherence, care and support programme that takes HIV treatment to the community and doorsteps should be considered for LGBTQ through their known registered group or association. It also recommends that while more funds should be channelled towards HIV treatment programme in Nigeria such that all aspects of the programme from test to drugs, both ARV and non-ARV will be free, financial support and empowerment can be erstwhile provided for those impoverished, decentralisation of such treatments across the country is equally important to ensure easy access to treatment at health locations close to place of abode.

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