Research Article

Trends of HIV/AIDS and Care for People Affected by AIDS in Sub-Saharan Africa

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ABSTRACT
The study investigated the trends of HIV/AIDS and care of people affected by AIDS in Sub-Saharan Africa. The method adopted was a descriptive analysis of the HIV epidemiology in Sub-Saharan Africa based on the valid research from different perspective about HIV and AIDS in the study region. The data used were through the report of Joint United Nations Programme on AIDS (UNAIDS), United Nations Children Emergency Fund (UNICEF), Association for Reproductive and Family Health (ARFH), Society for Family Health (SFH) and National Youth Service Corps HIV Community Service Group, Benue, Nigeria. The vast majority of people living with HIV are located in low- and middle-income countries, with an estimated 68% living in Sub-Saharan Africa. The success story of dropping in the prevalence is a reality of the national bodies assisting the country to see that a zero prevalence HIV and AIDS is real. This target is to achieve 90-90-90 vision in which 79-78-86 had been achieved on the global trend. The efforts of peer educator trainers, awareness of HIV/AIDS on radio and television programme and through other stake holders who are working towards ending the AIDS epidemic have been the secret behind the compliance. This has resulted to the dropping in the prevalence levels of HIV/AIDS in some part of Sub-Saharan African like Benue, Nigeria.

Key words: Sub-Saharan Africa, Human Immunodeficiency Virus, People Affected by AIDS, Peer educators, Retroviridae

Citation: Emmanuel Olumuyiwa Onifade. (2020). Trend of HIV/AIDS and Care for People Affected by AIDS in Sub-Saharan Africa, Research in Infectious Diseases and Tropical Medicine, 2(1)18-25. http://dx.doi.org/10.33702/ridtm.2020.2.1.4
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INTRODUCTION

People seem to have a kind of fear about Human Immunodeficiency Virus (HIV) and thereby giving it different kinds of names such as sickness that has no cure. Pathogenic mechanisms of viral disease include implantation of the virus at the portal of entering, local replication, spread to target organs and spread to the site of shedding of the virus into the environment [1-6]. However, care for ‘People Affected By AIDS’ (PABA) should not be left out in quest of wagging war against the menace caused by the disease. Even though, twenty first century has been so unique due to several outbreaks of several diseases such as Bird Flu, Swine Flu, Ebola Virus, Zika Virus, and Coronavirus among others. This has now made viral infection to be popular among other microbial infections. The coronavirus disease (COVID-19) that was discovered in Wuhan province of China has transformed the level at which everybody is highly conscious of personal hygiene globally [1-3].

The word virus was coined from the Latin word meaning toxin or ‘poison. Virus is such a unique organism. The genetics materials of virus are either RNA or DNA. Virus is capable of alternating between intracellular and extracellular cell. The extracellular cell is an infectious stage. The genetics materials contain instruction to make millions of clones of original virus such that, replication of the genetic materials do occur when the virus stay control of the cell synthetic machinery [2,7].

Furthermore, COVID-19 has wrecked more havoc than Ebola that broke out in 2015. But before now, HIV seems to take a lead in terms of popularity among other viruses. HIV is a lentivirus and it belongs to the family Retroviridae. HIV-1 and HIV – 2 are the two major types of the virus. HIV-1 is common globally while HIV-2 is more prevalent in some West and Sub-Saharan Africa. Therefore, care for People Affected By HIV/AIDS (PABA) should not be neglected in Sub-Saharan African countries and other part of the countries and the whole world at large [4-6].

MATERIALS AND SOURCES OF DATA

The method adopted in this paper was a descriptive analysis of the trends of HIV in Sub-Saharan Africa based on the valid data from different sources about HIV and AIDS in the study area. The data used was captured through the report of periodic epidemiological surveys of Antenatal Clinic (ANC) sentinel surveys, United Nations Agency for AIDS (UNAIDS), National HIV and AIDS and Reproductive Health Surveys (NARHS), Nigeria Demographic Health Surveys (NDHS), Integrated Biological and Behavioural Surveillance Surveys (IBBSS) and National Agency for the Control of AIDS (NACA).

Study Area and Population

Sub-Saharan Africa is, geographically and ethno-culturally, the area of the continent of Africa that lies south of the Sahara. According to the United Nations, it consists of all African countries and territories that are fully or partially located south of the Sahara. So, only 7 countries are not geopolitically part of Sub-Saharan Africa. These include Algeria, Egypt, Libya, Morocco, Tunisia, Western Sahara (claimed by Morocco) and Sudan; they form the UN sub-region of Northern Africa. All other African countries have at least significant portions of their territory within sub-Saharan Africa [12-15]. These 46 out of 54 countries that comprise Sub-Saharan Africa include: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo (Brazzaville), Congo (Democratic Republic), Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Western Sahara, Zambia, Zimbabwe [16]. According to 2019 revision of the world population prospects, the population of Sub-Saharan Africa was 1,038,627,178 in 2018; while the population of the region amounted to 1.1 billion inhabitants in 2019 [17].

Modes of Transmission of HIV and Epidemiological Model of AIDS in Sub-Saharan Africa

The HIV targets cells in the immune system (the body’s defence against illness) and weakens the body’s ability to fight against infections and some types of cancer. The virus destroys white blood cells in the immune system
Emmanuel Olumuyiwa Onifade et al; Trend of HIV/AIDS and Care for People Affected by AIDS in Sub-Saharan Africa called CD4 cells and replicates itself inside these cells. As the virus destroys and impairs the function of immune cells, infected individuals gradually become immune-deficient. The body becomes increasingly unable to fight infections and disease and vulnerable to opportunistic infections and cancers. Immune function is typically measured by CD4 cell count. The most advanced stage of HIV infection is acquired immunodeficiency syndrome (AIDS), which can take from two to 15 years to develop, depending on the individual [16, 17].

The outbreak of AIDS around the world in the last 15 or 20 years is usually referred to as the “AIDS epidemic” or occasionally “pandemic” [18]. These terms have no great analytic value. The major medical dictionaries and epidemiological textbooks defined an epidemic merely as an outbreak of a disease marked by a greater number of cases than usual [18, 24].

RESULTS

Global Report on HIV/AIDS

In Africa and other parts of the world, viral infections have been most embattled diseases in the public health [19]. So, HIV continues to be one of the major global public health issues [4, 23].

In 2018 an estimated 37.9 million people were living with HIV (including 1.7 million children), with a global HIV prevalence of 0.8% among adults (Figure 1). Also, in Western and Central Africa (often referred to as Sub-Saharan Africa), 6.1 million people had been reported to be living with HIV/AIDS in the 2017 [4, 7].

The prevalence of HIV/AIDS among different people include sex workers (6%), people who inject drugs (12%), men who have sex with men (17%), transgender women (1%), clients of sex workers and sex partners and other key populations (18%); and remaining population (46%) (Figure 2) [4].
Further global report in 2018 showed that since the start of the epidemic, an estimated 74.9 million people have become infected with HIV and 32 million people have died of AIDS-related illnesses. Also, 770,000 people died of AIDS-related illnesses. The vast majority of people living with HIV are located in low- and middle-income countries, with an estimated 68% living in Sub-Saharan Africa shown [7]. The distribution of global newly infected people shown in Figure 3 revealed that 280,000 are from West and Central Africa.

Current Trend of HIV/AIDS in West and Sub-Saharan Africa
The Status of the HIV/AIDS Epidemic in Sub-Saharan Africa despite the fact that Sub-Saharan Africa contains only about 11 percent of the Earth's population; the region is the world's epicenter of HIV/AIDS. The numbers are daunting, adult HIV prevalence is 1.2 percent worldwide and 9.0 percent in Sub-Saharan Africa. According to UNAIDS at the end of 2001; there were 40 million people living with HIV/AIDS, 28.5 million of them from Sub-Saharan African. Five million adults and children became newly infected with HIV in 2001, 3.5 million of them from the region [4,6,8]. While, three million people died from AIDS-related causes in 2001, and 2.2 million of these deaths were among Sub-Saharan Africans [6].

In addition, AIDS was the leading cause of death in Sub-Saharan Africa before the COVID-19 pandemic. Worldwide, AIDS was the fourth leading cause of death before the outbreak of EBOLA and SARCOV-2 that later emerged to coronavirus disease (COVID-19). Life expectancy at birth has plummeted in many African countries, wiping out the gains made since independence. The combination of high birth rates and high AIDS mortality among adults, including many parents, has meant that more than 90 percent of children who have been orphaned as a consequence of the HIV/AIDS epidemic are in this region [6,8].

Overall adult in the middle part of Africa is undergoing a serious and generalized HIV/AIDS epidemic. Among the countries in the region, the Democratic Republic of Congo, Chad, and Equatorial Guinea show adult HIV prevalence rates under 5 percent. Angola has been war-torn and chaotic for so long that it is difficult to know exactly what is transpiring with the epidemic there. However, UNAIDS places the adult prevalence rate at 5.5 percent. Elsewhere in the region, UNAIDS reports prevalence rates of 7.2 percent in the Congo, 11.8 percent in Cameroon, and 12.9 percent in the Central African Republic. Many of the worst affected countries in middle Africa have the highest rates of other STIs on the continent. Among the 15 countries of West Africa, only a few countries have prevalence rates over 5 percent. These include Burkina Faso (6.5 percent), Côte d'Ivoire (9.7 percent), Nigeria (5.8 percent), and Togo (6.0 percent). With an estimated population of 127 million, Nigeria is the demographic giant of Sub-Saharan Africa. After South Africa, Nigeria has more people living with HIV/AIDS (3.5 million in 2001) than any other place on the continent. Côte d'Ivoire receives a large number of male migrants from neighbouring countries who are temporary workers. Along with a vibrant commercial sex industry, especially in the capital city of Abidjan, this helps explain why Côte d'Ivoire has emerged as the epicenter of the epidemic in West Africa [1-7].
However, it is still not clear whether circumcision’s apparent protective effect is due to culturally or religiously dictated behaviour such as limiting the number of sex partners, or what the foreskin’s biological role is in male infection with HIV and other STIs [8].

Additionally, this is an encouraging trend, a drop in the annual number of new infections over a short period does not mean very much by itself. Some eventual downturn in incidence (annual new infections) would eventually occur even in the absence of any successful prevention efforts. The high levels of incidence that drove expansion of the epidemic during the 1990s could not be sustained indefinitely. This happens, in part, because prevalence levels become so high in certain high-risk groups that there is little room for expansion. A drop in incidence over a number of years is needed before it signifies a change in the overall course of the epidemic. Also, a rise in a few key but large countries — Congo and Nigeria, for example — could see incidence climbing again. The best assessment is that, while there are some hopeful signs, overall, the epidemic continues to rage throughout the Africa region. Even if prevention efforts become radically more successful in the near future than they have been, the impacts of the HIV/AIDS epidemic are going to echo for generations. If prevention, treatment, and care programs evolve at a more modest pace, it is certain that HIV/AIDS will have a profound impact on African development well into the 21st century [19].

Table 1: Estimated Number of People in the African “AIDS Belt” Living with HIV/AIDS, end of 2001

<table>
<thead>
<tr>
<th></th>
<th>Total Adults and Children</th>
<th>Total Women (15-49)</th>
<th>Adults (15-49) rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Total</td>
<td>40 million</td>
<td>18.5 million</td>
<td>1.2</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>28.5 million</td>
<td>15 million</td>
<td>9.0</td>
</tr>
<tr>
<td>Djibouti</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>2.1 million</td>
<td>1.1 million</td>
<td>6.4</td>
</tr>
<tr>
<td>Uganda</td>
<td>600,000</td>
<td>280,000</td>
<td>5.0</td>
</tr>
<tr>
<td>Kenya</td>
<td>2.5 million</td>
<td>1.4 million</td>
<td>15.0</td>
</tr>
<tr>
<td>Tanzania</td>
<td>1.5 million</td>
<td>750,000</td>
<td>7.8</td>
</tr>
<tr>
<td>Rwanda</td>
<td>500,000</td>
<td>250,000</td>
<td>8.9</td>
</tr>
<tr>
<td>Burundi</td>
<td>390,000</td>
<td>190,000</td>
<td>8.3</td>
</tr>
<tr>
<td>Mozambique</td>
<td>1.1 million</td>
<td>630,000</td>
<td>13.0</td>
</tr>
<tr>
<td>Malawi</td>
<td>850,000</td>
<td>440,000</td>
<td>15.0</td>
</tr>
<tr>
<td>Zambia</td>
<td>1.2 million</td>
<td>590,000</td>
<td>21.5</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>2.3 million</td>
<td>1.2 million</td>
<td>33.7</td>
</tr>
<tr>
<td>Namibia</td>
<td>230,000</td>
<td>110,000</td>
<td>22.5</td>
</tr>
<tr>
<td>Botswana</td>
<td>330,000</td>
<td>170,000</td>
<td>38.8</td>
</tr>
<tr>
<td>Swaziland</td>
<td>170,000</td>
<td>89,000</td>
<td>33.4</td>
</tr>
<tr>
<td>Lesotho</td>
<td>360,000</td>
<td>180,000</td>
<td>31.0</td>
</tr>
<tr>
<td>South Africa</td>
<td>5.0 million</td>
<td>2.7 million</td>
<td>20.1</td>
</tr>
</tbody>
</table>


Knowledge on Prevention and Responding to HIV Drug Resistance
Prevention and responding to HIV drug resistance in the African region has been the regional action plan from 2019 to 2023. Therefore, global action to combat HIV/AIDS has had an immense impact in the African Region. By the end of 2017, 15.3 million people living with HIV (PLHIV) in the African Region were accessing life-saving antiretroviral drugs (ARVs), representing 70% of the 21.7 million people accessing antiretroviral (ARV) globally [7,26]. As a
result, WHO and the Joint United Nations Program on HIV/AIDS (UNAIDS) have set the target of 90% of people living with HIV on antiretroviral therapy (ART) achieving virological suppression by 2020. However, the potential positive impact from the scale-up of ART is under threat from an increase in the prevalence of HIV drug resistance (HIVDR). As the prevalence of HIVDR in the African Region increases, the impact on society, the economy and on health could be severe. If the prevalence of pretreatment HIV drug resistance (PDR) to nonnucleoside reverse-transcriptase inhibitors (NNRTIs) in Sub-Saharan Africa exceeds 10% and NNRTIs continue to be used in first-line ART regimens, over a five-year period, NNRTI PDR may be responsible for a cumulative 135 000 AIDS-related deaths, 105 000 new HIV infections and an additional US$ 650 million will be spent on ARVs in Sub-Saharan Africa [20].

**Cares for Persons or People Affected by Aids (PABA)**

PABA (Person Affected by Aids) is one who has a relation, friend or close associate living with the virus or AIDS. They need care and support due to their health condition as they face the challenges of their illness. However, the level of care depends on the stage of the illness. PABA does not only include HIV positive only but the care givers and people who live around People Living with HIV/AIDS (PLWHA) are inclusive. This is already known in Sub-Saharan African region, and that is why the stakeholders ensured that efforts to end HIV/AIDS are narrowed down to grassroots level. This is to build healthcare provider skills for effective service delivery and communication with people. It will also provide information and support for the people to make informed decisions about their health, their engagement with health care and management of HIV/AIDS. It is also to offer a patient appointment system and acceptable frequency of clinic visits [10, 21].

In addition, to ensure that there are health systems in place to track patients who default on their appointments, or avoid long waiting times during clinical consultation, medication pickups and laboratory services. Thus, HIV care and support should be channel towards improvement of the quality of life of people living with HIV, their families and community. This type of care should address their medical, psychological, spiritual social and legal needs. The care has a lot of benefit including, reduce stigmatization and discrimination, it encourages other people to go for HCT (HIV Counseling and Testing), it prevents further transmission of the virus, it prolongs life span and improve quality of life of PLHIV (People Living with HIV) and another benefit that it helps to safeguard economy of the country [21,26-28].

In some part of Sub-Saharan Africa, the use of peer educator trainers and radio mass media has gone a long way in creating awareness about HIV and AIDS. So, both old and young people are informed the virus and its mode of the infection. Also, PABA (People Affected by Aids) are fully aware of the danger of being absconded from taken their drugs which is in agreement with the previous report, it is also clearly evident that the coverage of preventive services has impacted on behavioural change in many ways. No wonder, the success story of dropping in the prevalent is a reality of the national bodies assisting the country to see how zero prevalent HIV and AIDS is real. This target is to achieve 90-90-90 vision in which 79-78-86 had been achieved on the global trend (Figure 4) [21,23-25-28].
CONCLUSION

HIV and AIDS are known globally and emphasis is on the virus and the infection while care for the people affected by the virus is almost neglected. In Sub-Saharan African countries, the strategies were mapped out on sensitization of the public about the reality of the virus at the grass root level. One of these plans include: the use of peer educator trainers trained by UNICEF (United Nations Children Emergency Fund) in conjunction with ARFH (Association for Reproductive and Family Health) and supported by SFH (Society for Family Health) and other stakeholders who are working towards ending the AIDS epidemic in Sub-Saharan African region.

The strategy put in place is through National Youth Service Corps (NYSC) scheme in country like Nigeria. The corps members were trained as Peer Educator Trainers (PETs) in their orientation camp for three weeks and in the next one year they are to engage in community development Service (CDS). The PETs duty was to train and mentor adolescents (Peer Educators - PEs) in schools; after which each adolescent trains ten other adolescents by spreading the news and not the virus. Short drama acted on the local radio both in English language and other major local languages with local accent help those who lives in the rural setting understand message better. This effort has led to the drop in the spread of the virus from the members of states in the region with the highest prevalent of HIV/AIDS in Nigeria to second in the world. The major secret behind the slide dropping is team work on the HCT from healthcare workers and other trained personnel from government owned hospitals, private hospitals and NGOs (Non-Governmental Organization) in the region affirms that AIDS epidemic can reduce to zero level. More efforts is recommended in order to achieve vision 90% people awareness of their status, 90% people undergone treatment and 90% virally suppressed.

Conflict of Interests
The authors declare that there is no conflict of interest.

Acknowledgements
The authors of this paper acknowledged United Nations Joint Program on AIDS, National Agency for the Control of AIDS; Joint United Nations Programme on AIDS (UNAIDS), United Nations Children Emergency Fund (UNICEF), Association for Reproductive and Family Health (ARFH), Society for Family Health (SFH) and National Youth Service Corps (NYSC) HIV Community Development Service for their efforts and contributions towards ending HIV/AIDS through their materials used in this paper. Special thanks to Mr. Tope Balogun, Mrs. Bukola Balogun and Miss Adewumi Taiwo who gave me technical support in the course of the research.

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