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The Victories and Vexations of HIV and AIDS: An African Critical Public Health Perspective

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Abstract **Background:** In sub-Saharan Africa, AIDS has resulted in many deaths, economic loss, sufferings and cultural changes. This paper focuses on the health, cultural, social and economic impact of HIV and AIDS on African communities. **Objective:** The study was conducted to analyse the problems ushered in by HIV and AIDS and developmental benefits that have resulted from the pandemic from an African perspective. **Methods:** This was not a systematic review because the medical and health literature related to the topic was searched unsystematically. We conducted a structured literature search using the following keywords: HIV/AIDS, victories, vexations, public health and African. The major literature data bases used were PubMed, EMBASE, google scholar and African Journals online. We also scanned reference lists for relevant citations including books, conferences and workshop reports**.** All articles selected were in English. We used most publications from 1983 to 2012. In-depth interviews were also held with some elderly persons. Observations on some African cultures were also conducted. **Results:** With rapid diagnostic tests and antiretroviral drugs, many lives have been saved from AIDS-related deaths. Victories in the fight against HIV/AIDS include a good diagnostic test, anti-retrovirals, risky behaviour changes that predispose people to HIV and vexations like lack of a vaccine, deaths, economic loss, hardship, social stigma and continuous HIV transmission. The changes in repugnant cultural habits have reduced the burden of HIV/AIDS in some communities. AIDS orphans need food, shelter, education, clothing, emotional and psychological well-being, health care and subsistence. Behaviour change and stigma have been difficult to measure and quantify but a validation scale has been developed. The new vision of three zeros (zero new infections, zero discrimination and zero AIDS-related deaths), lack of financial commitment from African governments, the concentration of new HIV infections among youths and the enactment of laws on human rights forHIV/AIDS patients canmitigate the impact of HIV/AIDS. **Conclusions:** Even though substantial progress has been made in the areas of treatment, health education, diagnosis, family planning, stigma reduction, home-based care and identification of high risk groups, there are still a number of barriers to HIV and AIDS service provision that need to be addressed. Community coping mechanisms should be sustained for the care of AIDS orphans.

Keywords: *HIV/ AIDS, victories, vexations, public health, Africa*

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1. Introduction

AIDS is a worldwide pandemic with the highest prevalence in sub-Saharan Africa [1]. The Sub-Saharan African region also has the highest burden of Human Immunodeficiency Virus (HIV) with an estimated 23.5 million cases [2]. HIV/AIDS remain a challenge to health care providers, policy makers and health providers worldwide [3]. The devastating social, demographic, and economic consequences of severe and widespread HIV/AIDS epidemics are unique to Africa [4].

Evidence of sexually transmitted diseases (STDs) began with the earliest written records of humans, some 4000 to 5000 years ago. Historically, the commonest ones reported have been syphilis and gonorrhea. Man entered the 20th century with five STDs. We are in the 21st century with

about 40 STDs - an eightfold increase [5]. The Acquired Immune-Deficiency Syndrome (AIDS), for about three decades now, has being the latest STD discovered by scientists. The discovery of HIV and AIDS has drawn a lot of attention than other STDs because they are pandemic; there is no cure, even though many drug trials have been made. Initially when HIV and AIDS became known in Africa in the 80's, some governments doubted its existence and others were ignorant of the disease burden on her citizens. Many African countries are trying to control this *'modem plague'* when many of her productive population is dying at an alarming rate. Coupled with the economic crisis, the HIV and AIDS scourge has left a devastating impact on African communities socially, economically and culturally. The social and economic impact of the pandemic on individuals, households, and communities has widened and deepened as years go by. This paper focuses on the health, cultural, social and economic impact of HIV and AIDS on African communities. The study was conducted to analyse the problems ushered in by HIV and AIDS and developmental benefits that have resulted from the pandemic from an African perspective.

2. Methods

This was not a systematic review because medical and health literature related to the topic was searched unsystematically [6]. We conducted a structured literature search using the following keywords: HIV/AIDS, victories, vexations and African. A structured review of 72 relevant publications on the major themes of this paper was carried out using CD-ROMs and the internet. Conference proceedings and workshop reports were also used. The major literature data bases used were PubMed, EMBASE, google scholar and African Journals Online. We also scanned reference lists for relevant citations including books, conferences and workshop reports. All articles selected were in English [6]. We used most publications from 1983 to 2015. Forty seventeen (65.3%) abstracts had relevant articles which were manually retrieved, photocopied and thoroughly reviewed or printed electronically from the internet. Key journals consulted include the Bulletin of the WHO, Nature, Nigerian Journal of Medicine, Science, Health Transition Review, AIDS Conference proceedings, Social Science and Medicine, WHO publications, UNICEF publications, Policy Forum, Indian Journal of Tuberculosis, Journal of Virology, Global health super course lectures, UNAIDS publications, Publications by the Global Fund to fight HIVAIDS, malaria and tuberculosis. Books and other publications with information on this topic were reviewed. Personal observations on some African cultures were carried out and in-depth interviews [7.8,9]with some elderly persons on some cultures, social behaviours and economic burden of HIV and AIDS on some African communities such as the Wimbum, Banso, Nkwen, Ewondo and Sawa of Cameroon and the Birum tribe of Plateau State of Nigeria were also carried out. The health, social, cultural, economic and educational consequences of the burden of HIV and AIDS on African communities were highlighted.

3. HIV/AIDS and the African Concept

Before its discovery in 1981, it was postulated that HIV has been present on the earth for more than a century [5]. Many evidences attest to this. Diseases with manifestations similar to what we now call AIDS were described in the early 1900s. In 1959, a young British male died of an unusual illness and the pathologist froze the serum and tissues and subsequently scientists identified HIV in these specimens. An American adolescent died of an AIDS-like illness in 1969. Eventually, HIV was found in his tissues and serum. During the late 1970s, many infants in New York City died with an AIDS-like syndrome [5].

HIV spread undetected during the 1970's. The pandemic, recognised in 1981, continues to gain speed and fury [10]. By 1984, scientists identified the virus and clarified the modes of transmission. Not long after that, they developed an excellent test for the presence of HIV infection. A retrovirus was implicated as the cause of AIDS [11,12]. This retrovirus initially termed lymphadenopathy associated virus (LAV) was isolated from the lymph node of a Parisian homosexual man with lymphadenopathy syndrome in 1983 in the Pasteur Institute, France by the Group of Professor Luc Montagnier [13]. Confirmation that this virus was the cause of AIDS came in 1984 from the National Cancer Institute in Bethesda, USA, where additional examples of viruses essentially identical to LAV were independently isolated from AIDS patients by the Group of Professor Gallo [12]. The virus was renamed Human T-Iymphotropic Virus type 3 (HTLV - III). In 1986, an international expert committee introduced the name HIV. There are two types of viruses: HIV - 1 (isolated in 1983) which is common in developed countries and is the main cause of the AIDS pandemic; HIV -2 (discovered in 1986) which is common in West Africa and has not shown any significant spread from there. A variant of HIV - 1 called HIV - 1 subtype 0 [14,15,16] was reported from Cameroon in Central Africa. The different types of HIV are closely related structurally but show distinct type specific biochemical and genetic properties as well as geographical locations. The origin of HIV is not known with any certainty. Lentiviruses similar to HIV -2 have been isolated from a number of clinically healthy and diseased monkeys (Simian Immunodeficiency Virus or SIV) [17]. Mass media houses around the world have reported that HIV originated from Africa but no confirmation to this effect has appeared in scientific literature. In 1987, the World Health Assembly stated that HIV is *'a naturally occurring retrovirus of undetermined geographical origin'*. The ancestors of HIV may have evolved from a reservoir of SIV; nobody can say with certainty. Among some Africans who believe that AIDS exists, they ascribe it to the poor handling of *'some viruses'* in American and European laboratories. They say HIV resulted from a test tube manipulation of viruses in Western laboratories. Some Africans believe that AIDS is a punishment from God for humanities' increasing sexual immorality such as homosexualism, lesbianism, sodomy, oral sex, fornication, adultery, and prostitution in all its forms.

4. AIDS and its Understanding in Africa

AIDS stems from human behaviour which results in HIV infection. AIDS results in the collapse of the immune

system. The incubation period of HIV infection varies from as low as 14 days to many years. AIDS is a syndrome with fever, diarrhoea, and weight loss. In Africa, weight loss is a prominent symptom, most probably due to the low protein intake, so that AIDS is called a *'slim disease'*. AIDS is also characterized by dementia, *Pneumocystis carinii* pneumonia, unusual cancers e.g. Kaposi's sarcoma; non-specific signs such as rashes, dry plazy skin with itching and so forth. Persons infected with HIV are both infected and infectious for life. Even when they look and feel healthy, they can transmit the virus to others. The hallmark of AIDS is deficiency in the body's defence mechanism.

In most rural areas in Africa, AIDS is referred to simply as a 'disease from the town'. As one elderly woman in Binka, Cameroon, described it: 'that your disease (disease of young people and urban dwellers) is disturbing us here in the village; all young people who have come back to the village after visiting hospitals in the cities end up dying; out of seven deaths in this village in a month, only one is an old person, the rest are young; who is going to bury us (old ones) when the young ones are all dying'. Among the Birum people of Plateau State of Nigeria, AIDS is known as a 'night sickness' because they believe that AIDS can only be got by men and women who sneak out of their houses at night to look for sexual partners. In the Western part of Cameroon, AIDS used to be known as 'women's disease' because one can only get it when he visits a prostitute or commercial sex worker. Among the Wimbum people of North Western Cameroon, when somebody dies from AIDS, it is hardly openly pronounced as AIDS, but villagers only say the victim died of 'that thing'. On further enquiries, some may say the person was killed by 'seven or eight or nine '. When 'eight' is mentioned anywhere, people think of AIDS. In some rural and urban communities in Africa, it is wrongly believed that AIDS is propaganda by the Western world to discourage sexual promiscuity. They say that AIDS is an “American Invention to Discourage Sex”. The sedivergent views on the meaning of AIDS show that many people are aware of the disease. This also highlights the fact that they know that AIDS is a transmissible disease that can be got primarily through heterosexual sex contrary to the homosexual and intravenous drug routes common in the West.

5. HIV and AIDS Treatment in African Settings

Public health experts maintain that in order to achieve declines in AIDS incidence and deaths, HIV-infected persons must seek testing earlier in the course of the disease, receive and adhere to treatment, and follow prevention guidelines [18]. At present, there is no cure for AIDS. However, drugs that slow or block the multiplication of HIV are in the market. Some of these include azidothymidine (AZT) or zidovudine developed by American researchers which increase the life span of the AIDS patient and prevent transmission to the neonate. Initially, not many patients could afford these drugs in the poor developing countries of Africa, but with the Global Fund and many development partners, these drugs are subsidised. For Guan Baoying, former Chief of Disease Prevention and Control Division under Beijing Municipal Health Bureau, two decades' work in the fight against AIDS has seen the rough and the smooth. She has witnessed, and more importantly helped to drive, social change in public attitudes towards the yet-unconquered disease. But there is one great regret: "We missed a golden opportunity of bringing AIDS completely under control, because most governments reacted late. Initially, HIV and AIDS treatment costed so much that it was unaffordable for ordinary families [19].”

The catastrophic medical expenses and premature disability due to AIDS have a devastating impact on the well-being of afflicted individuals. Society also experiences numerous negative consequences from HIV and AIDS and indeed some nations are experiencing health system failures. Furthermore, persons with HIV and AIDS also face other blood borne infections, and of particular concern, is hepatitis C [18].

The 2004 AIDS Conference in South Africa broke the veil of silence about the disease in Africa. A popular African government tasted the raw anger of its citizens. The harsh criticism that reportedly heralded the keynote speech of the host head of state, during the Conference and swift, widespread bitterness regarding the perceived lack of action by the South African government on HIV and AIDS, served as a wakeup call to African governments.

Some African health researchers have claimed the development of vaccines against AIDS but none has successfully undergone the correct clinical trial protocol to be accepted for medical use. Professor Luc Montagnier, the pioneer discoverer of HIV and the Nobel Prize Laureate for medicine in 2008, had said *'The search for a vaccine has reached a dead end*'. He further reiterated that an entirely new approach was needed and suggested efforts in developing a vaccine that could stimulate mucosa immunity. As Elder [5] concluded: *'Effective curative therapy is not on the horizon. We do not know how to design therapy that will eradicate HIV from host cells. We need major advances in the science of retro viruses for curative HIV therapy to be developed; studies have been carried out exploiting everything learned about vaccines during the past two hundred years. We are back to the drawing table. We need major scientific breakthroughs before we will be able to design an effective vaccine'*. However, this view was countered by a trial of AIDS VAX, a vaccine developed by VaxGen, a pharmaceutical company based in San Francisco, California. This product went to the third phase of clinical trial. Results of the trial indicated that there may not be a watershed in the quest of an anti-HIV vaccine [19]. It was an essential step towards the final development of an AIDS vaccine. As Francis noted, without such a trial nothing would happen and the stagnation will continue [20]. Scientists have failed woefully in a search for a cure for AIDS. The reasons are three fold: - HIV is an obligate intracellular parasite; the only drugs available are those that can kill the virus as well as the host cells, hence killing the AIDS patient; HIV has a high mutation rate, if we assume production of 10 virions per day, then more than 10^8 HIV viruses will be made in 10 years. Assuming a mutation rate of 10, an HIV infected person will produce 10 mutations during a life time. Vaccination and therapy must be effective against all the 10 virus types [1]. The

antibodies produced in HIV infection are non-neutralizing and lie side by side with the virus.

Nevirapine was the main drug used for the prevention of mother-to-child transmission of HIV in African settings for years. Nevirapine controls HIV but never cures it [21]. Antiretroviral treatment for HIV and AIDS is not a cure, but it can stop people from becoming ill for many years. In combination therapy, two or more drugs have to be taken for life (sometimes referred to as Highly Active Antiretroviral Therapy (HAART).If only one drug is taken, HIV quickly becomes resistant to it and the drug would stop working. Taking two or more anti-retrovirals (combination therapy) at the same time vastly reduces the rate at which resistance would develop, making treatment more effective in the long term [22] without which many Africans would have perished. HIV and AIDS drug resistance is a frequent cause of treatment failure presenting a major challenge for physicians as they try to effectively suppress viral load to an undetectable level [23].

Traditional healers in Africa have made serious claims of treating AIDS patients but none has been proved scientifically. Most of these traditional healers or herbalists are illiterates. They don't know the clinical signs and symptoms of AIDS. However, this is not to argue that these herbalists cannot treat other diseases. Herbal medicine or alternative medical care has taken care of a lot of health problems in Africa [24].

6. The Social Implications of HIV and AIDS in Africa

In just a little above three decades, AIDS has become several things to the people of the world. It has grown from an object of discrimination against homosexuals, among whom it was first observed, to a potent tool for the prosecution of the now defunct cold war and its inherent smear campaign against Africa [25]. It has woken old prejudices among the races and then turned to become a catalyst for world co-operation and collaboration even if the old prejudices persist. But rather unfortunately, it has become associated with poverty in resources and in basic science, and their potentials in curbing the spread of this disease that scientists have called a *'modern plague'* [25]. Evidence of the positive relationship between the spread of HIV and thus the disease itself tends to dominate deliberations in conferences worldwide.

In all countries, regardless of the expenditure for health care, the pandemic continues its relentless spread. If AIDS has been existing on the planet earth for one - third of a century or more [5]. What could be responsible for this pandemic? Even though we know which human behaviours spread HIV, communities and individuals have not been willing to grapple with and change risky behaviours [5]. Several reasons have been given for this lack of change in behaviour. The belief by some Africans that AIDS or HIV infection is a western propaganda to discourage sexual promiscuity is one. Secondly, some scientists claim that *'HIV is not the cause of AIDS* ' [26] including a former South African President [27].

In Africa, where health education on HIV and AIDS is gaining momentum, people tested positive for the infection cease to matter in society. Though with many preventive campaigns by local governments and non-governmental organisations using the mass media, churches and schools, the behaviour of mankind has been very slow to change despite the dangers of the disease. Socially, sexual promiscuity among the female folk especially young girls and ladies, students in institutions of higher learning and commercial sex workers is on the increase because of poverty and economic hardship. Most migration of rural poor girls to the big cities for jobs as house helps, babysitters and apprenticeshipsis common in Cameroon but end up as prostitutes in what is known as beer or *'chicken parlours' (alcohol consumption spots run by old experienced prostitutes).* These' *chicken parlours'* are run by older prostitutes who recruit and house the young girls (who cannot afford house rents) for male customers who are mostly older alcohol consumers. Prostitution for economic gain is high among students. In front of female hostels in most institutions of higher learning in Africa, for instance during evening periods, the gates are parked with cars. These car owners are not guardians of these teenagers but *"sugar daddies" (old rich men)* and boy friends who come to exchange money for sex. In Cameroon, economic needs lead many young women to use sexual relations for economic support, despite high levels of HIV infection. All boyfriend/ girlfriend relationships have an economic component, either sexual experience and satisfaction, or marriage, or for other economic benefits [28]. This shows that younger age people are more likely to be affected by HIV than men [27,29]. This situation prevails in many other African countries. Most of these people are educated but the general belief among them is that AIDS exists but the chances that their next customer is HIV positive is slim. As explained by one man *'whether AIDS or no AIDS, one will die one day'*. It is true we will all die one day, but we should not die out of careless.

In Africa, the concept of extended families is the common practice contrary to the notion of nuclear families in the West. In most African families, therefore, a single person who has a source of income or livelihood shoulders the burden of many family members. Unfortunately, the population group most affected by HIV and AIDS falls within the 20-40 year age bracket, which also constitutes the most economically productive sector of society[30]. Uganda is one of the most successful countries in Africa that has reduced the prevalence of HIV and AIDS significantly from 18% (1992) to 6.4 % (2005) over the last two decades. The HIV prevalence also reduced in Cameroon from 11.8% in 2001 to 5.5% in 2009 [18,31].

7. Orphans and other Children made Vulnerable by HIV and AIDS in Africa

Institutional care of OVC in orphanages is an old practice in Africa but with the advent of HIV and AIDS and the resultant deaths of parents who succumb to it, the number of OVC keep increasing at a rate that the traditional African society with the "extended family cooperation concepts" cannot cope up. There is need to strengthen traditional African communities to continue to support OVC in their natural environment [32]. The emerging consensus of opinion is that extended families and communities are the first line of defense in the orphan

crisis and that: 1) families are almost always the best place for the child; 2) primary interventions should be centered on building the capacities of families to care for orphans and; 3) residential orphan care is the least desirable option for children because "orphan care institutions" are inherently "anti-community". As a result, institutional care is increasingly under scrutiny and has been branded the "last resort" in a spectrum of interventions for OVC [33]. HIV and AIDS have ushered in the concept of OVC which is negatively affecting the development and future of African children. For example, the prevalence of HIV in Cameroon was 5.5% in 2010 with significant regional discrepancies; two thirds of those currently infected are youths and 60% of annual infections fall within this category of citizens [34]. The estimated number of people living with HIV and AIDS for 2002 was 920,000, of which 69,000 were children (compared to 22,000 in 1999) between 0-14 years and 860,000 were aged 15-49 years including 500,000 women [18]. HIV and AIDS pose serious social, cultural and economic hardship to its victims including OVC [18]. The integrated approach concept help orphans to prevent themselves against HIV and to cope with the social stigma of the disease and its economic consequences; it also helps them to adapt to their natural environment [32]. According to UNAIDS [35], there were more than 15 million AIDS orphans in 2008 in Africa with a corresponding increase in the number of OVC.

The growing numbers of AIDS orphans are now recognized as a major long-term threat to the stability of hardest-hit nations. According to USAID, by 2010, one in seven children under 15 in Sub-Saharan Africa had lost a parent to AIDS [36]. Other estimates project that during the same period, AIDS accounted for 40 million orphans, 95% of them in Africa. The extended family system in Africa is under severe strain because of the unprecedented numbers of orphans. Taking care of orphans in institutional setting is out of the question in Africa because of the hefty price tag of $2,000 a year for each child. These children are missed out of school, become surrogate parents to their younger siblings or coerced into early sexual activities. Caring for millions of orphans who probably require special services and care if they are to reach their full potential as adults is another daunting concern [36].

"One of the most effective ways of alleviating the suffering of orphans and vulnerable children is a centuries old practice that is not new to most community-based organisations and other organisations caring for OVC. It is, at least by most African family cultural standards, a well-known and deep rooted practice that is embedded in the African family tradition, to care for their brothers' kith and kin" [37]. The burden of OVC care is very severe and straining on the traditional extended African family [32,38].

HIV and AIDS strike at the heart of support structures for the old and young, leaving large numbers of OVCs. Older grandparents are increasingly caring for OVC, without adequate support and resources to do so. UNICEF [39] estimated that over 60 per cent of OVC live in grandparent headed households in Namibia, South Africa and Zimbabwe. Older caregivers, most of whom are older women, are repeatedly excluded from programmes and policies to address HIV and AIDS and the orphan crisis. Yet, they are crucial to the protection and development of children in AIDS affected households as well as the long-term sustainability of communities [40].

Deaths from AIDS affect mostly breadwinners in African communities. Many old and poor grandparents have been left to take care of many orphans as a result of AIDS. As Danziger [30] pointed out, these orphans need food, shelter, education, clothing, and emotional and psychological well-being. By the time the economically productive ones are down with AIDS, the poor dependents cannot afford to provide the costly medical care, good nutrition and moral support. This forces the family to either borrow or sell or mortgage some of their property. When the AIDS victim finally dies, the family continues to borrow or sell or mortgage their property to take care of the funeral rites. As observed in some extended families in Cameroon, as many as five people can die from AIDS in less than three years. As is often the case, these people are family breadwinners. In some very poor families, this leads the children of the AIDS victim to destitution. In families ignorant of AIDS or situations where family members ascribe the cause of death of the AIDS victim to other causes like poison and witchcraft, the wife (if she is still alive) may go into prostitution in order to help herself and the children. This leads to further transmission of the virus to healthy people or double infection to infected individuals.

8. Women and HIV and AIDS in Africa

According to UNAIDS, sub-Saharan Africa accounted for more than 28 million of 40 million sero-positive persons in the world in 2004 and women, girls and children were the most vulnerable groups: 2/3 of all sero-positive persons were women and out of 10 women infected in the world, 8 were Africans [41]. Most African girls are uneducated about HIV and AIDS and how to protect themselves [42]. More than 70% of adolescent girls in Somalia and more than 40% in Guinea-Bissau and Sierra Leone have never heard of AIDS [42].

There are significant regional disparities**,** within regions and countries but all over Africa, women have higher HIV prevalence across all age categories. In most communities in sub-Saharan Africa, women act as housewives, farmers and principal motivators and participants in the welfare of the family. This women's role becomes more prominent in polygamous homes where each wife takes care of her children. Sadly enough, in Africa, AIDS has affected more females than males. This preponderance of female over male HIV and AIDS cases is a big barrier to women empowerment. The reason for this discrepancy is that most males in Africa are circumcised which is believed to protect them from AIDS. In uncircumcised males, the fragile prepuce easily breaks open creating a route for the AIDS virus to get into the blood stream during coitus. Analyses of the current prevalence of people infected by HIV show that living in Southern (and to a lesser extend Eastern) Africa is associated with an additional risk. This was found in a statistical model taking into account the proportion of males circumcised and the proportion of Muslim in any given country [43,44]. Secondly, even though commercial sex workers in Africa are women, the female genital organ is like a receptacle (because of its

large surface area and compartments) for storing semen (the concentration of HIV in semen is greater than that of vaginal secretions). This means that the contribution by African women to the development of their society will be greatly affected because more women than men are certainly going to die from AIDS if no vaccine or cure is discovered for the disease. Many grandmothers are taking care of orphans and vulnerable children left behind by late AIDS victims, yet in most African communities, there are no policies for the care of these old women.

9. Impact of HIV and AIDS on African Cultures

Culturally, some positive changes in behaviour have occurred [45]. For example, in East Africa, Uganda, excessive coitus by the Baganda tribe during funeral rites and the Bagistu tribe during circumcision ceremonies has been observed to reduce [46]. By early 2001, the number of HIV and AIDS cases in Uganda had stabilized [47]. These changes in culture and the Ugandan government campaign against the disease may be contributing factors. In parts of East and Southern Africa: Rwanda, Burundi, part of Eastern Democratic Republic of Congo, Western Kenya, Western Tanzania, Zambia, Malawi, Zimbabwe, Botswana and Uganda, their culture of not circumcising the male has been proved by scientists in this part of the world to be a facilitator in the spread of AIDS [48,49]. Though their culture has been affected, it will be wise to circumcise all the males if the number of AIDS or HIV positive patients has to be reduced. In most communities in Africa, for example in Cameroon, where extra-marital sex is common with husbands, especially in areas where alcohol is highly consumed, this attitude has been drastically reduced. Men have learned that sticking to one sexual partner is good. This attitude, in addition to protecting the health of the family saves a lot of money. In Cameroon, the radio, television and print media have been disseminating health information on HIV and AIDS everyday as a means of prevention following the high political will of the government.

In most African countries, especially where AIDS has reached epidemic proportions, the practice where men used to take over the wives of their late brothers *('widow inheritance*') is dying out. In most Ugandans, for example, this attitude of widow inheritance is a thing of the past because family members are afraid that their late ones might have died of AIDS [46]. This gives the woman the right to remarry to a husband of her choice, hence respecting human rights but exposing the next partner to HIV. Ntozi et al [50] also found that in contrast to the past situation where wives were shared by brothers among the Banyankore tribe of South West Uganda has disappeared fast over less than a decade for fear of AIDS transmission. Among the Wimbum people of Cameroon, the culture of barbing after losing a dear one is dying out because the number of AIDS victims is increasing day by day. As one elderly man puts it *'how can you barb when before your hair starts to grow about three to four people have died'*. As the barbing instruments are never sterilised during such massive barbing funeral ceremonies, HIV transmission is probable. Among the Wimbum people, funeral rites last three days for a man and four days for a woman. This tradition is no more respected because in some villages eight people can die within a week. If such a culture has to be respected, the villagers would not be able to work on their farms which can lead to hunger and poverty, hence worsening the AIDS crisis.

The notion of family planning or protective sex that was very difficult to be grasped by Africans is seeing more light [51,52]. The number of people using condoms has increased because of the AIDS epidemic. Many other sexually transmitted diseases have been controlled as well as checking population increase. Many people even in the rural areas are aware of condoms. For example, the Nigerian Contraceptive Social Marketing Programme is considered to be one of the most successful of its kind in Africa. The programme has achieved national coverage and currently promotes and distributes the bulk of modern contraceptive (especially condoms) for family planning and prevention of STDs including HIV and AIDS. In the Wimbum tribe of Cameroon, sexual awareness and the use of condoms which was a taboo according to the culture, is now discussed openly in local meetings and by mothers with their children on the farms as health education towards AIDS prevention. In Cameroon, youths refer to condoms as *'stockings* or *boots'*. The condoms are well known among Cameroonians but most people buy them in hiding or at night because they are ashamed. This is very common in many other African communities.

10. Impact of HIV and AIDS on the Educational Sector in Africa

The impact of HIV and AIDS on education have far reaching implications for long term development because they are significant obstacles to children achieving universal access to education. The pandemic weakens the quality of training and education, which means fewer people benefiting from good standard schools and universities. It also accelerates the impact of a pre-existing professional brain drain [53].

Teachers and lecturers belong to the most HIV and AIDS affected age group, although vulnerability patterns differ between countries. For example, in Botswana, Malawi and Uganda, teacher mortality rates were broadly compatible with general population rates [53]. Many HIV and AIDS- affected families may withdraw children from school to compensate for labour losses, increased care activities and competing expenses. If the mother is dying or has died, children particularly girls, are needed for household duties. If it's the father that dies, children may be less likely to continue schooling. The pandemic may negatively affect student enrolment in many ways. Some of these may be due to reduced fertility and young adults dying from AIDS implying a decrease in school enrolment.

The quality of education may also suffer as more teachers succumb to the disease [54]. When this happens, inexperienced and unqualified teachers are recruited to fill in the gaps. The final impact is a reduction of student-teacher contact. Moreover, skilled teachers are not easily replaced. In hard-hit countries, more teachers need to be trained, but this is presently beyond the capacity of many countries because of financial constraints.

UNAIDS noted that many education ministers are adding HIV and AIDS education to their curricula which

is a valuable part of a successful AIDS response. This HIV and AIDS education, incorporates skill- based health education, linked with the development of interpersonal and other skills such as, critical and creative thinking, decision making, self-awareness as well as the development of the knowledge, attitudes and values needed to make sound health related decisions [54].

Condom models and the practice in the use of condoms has to be demonstrated and taught in primary and secondary schools as well as colleges/ universities and in family planning clinics and local community groups in villages. This has been demonstrated nowadays in AIDS clubs in secondary schools, universities, family planning clinics and village local health committees in Cameroon.

In Cameroon, faith-based organisations like the Cameroon Baptist Convention has included HIV and AIDS into her health programmes at the health facility and community levels. The church should intensify her role with respect to responsible sexual behaviour and care for/and about our bodies. Women must control their bodies and be able to say *'no'* to men. Men must take control of their passions and be able to say *'no'* to women. We should see ourselves as precious children of God.

Elite associations and cultural groups should educate their tribal members on the dangers and consequences of AIDS and HIV infection in areas where risky cultural habits like *'widow inheritance'* and sharing of wives are difficult to be changed by its members. This approach can also take care of people who are ignorant or reluctant to accept the realities of HIV and AIDS.

11. Impact of HIV and AIDS on the Economy of African Nations

HIV and AIDS are major development crises. Not since the Black Death devastated medieval Europe has humankind observed infectious disease deaths on such a scale. Life expectancies, which rose steadily before the onset of the HIV pandemic, are decreasing in nearly all the 25 countries where the adult prevalence exceeds 5 percent. In countries most heavily affected by HIV and AIDS, life expectancy was projected to fall to about 30 years by 2010– a level not seen since the beginning of the 20th century [55]. Various factors related to poverty, gender inequality, sexually transmitted infections, social norms, political and social changes, including labour migration, conflicts and ethnic factions have facilitated the rapid spread of HIV [55]. But what has enabled HIV and AIDS to undermine economic and social development is its unprecedented erosion of some of the main determinants of economic growth such as social capital, domestic savings and human capital [45]. For these reasons, the HIV pandemic has been transformed from a health issue into a much wider issue impairing economic and social development [55]. Because it prevents a large portion of the population from participating in economic growth, the HIV and AIDS pandemic increases poverty. The result is a vicious circle whereby HIV and AIDS reduces economic growth and increases poverty, which in turn accelerates the spread of HIV. Preventing further spread of HIV, in addition to providing care and support programmes to those both affected and infected by this pandemic, requires early intervention and the mobilization of external resources [56].

The rate of new infections each year has been rising in some age groups (15-24 years in Cameroon and 30-34 years in Uganda) [34]. According to the National AIDS Control Committee of Cameroon [34], there were 143 new infections per day in the general population. This has potentially devastating consequences on the economy, labour supply and productivity, overall production, revenues, and impact on families and communities. It is generally argued that the pandemic is likely to have devastating consequences for the overall economic development of developing countries like Uganda, and that these consequences are likely to be felt in the future due to the impact of the skill loses[18,31].

Experience has shown that across the African continent, the most vulnerable people are the most economically active [57]. As these active people die, families are struggling to cope not just emotionally, but also economically. Poverty is increasing as bread-winners die and scarce savings are utilized in the period of ill health. As savings dwindle, families begin to fragment economically. One implication of this fragmentation of families is the rising numbers of orphan children on our continent. For the future, three factors are particularly important: Firstly, AIDS selectively destroys human capital, that is, peoples' accumulated life experiences, their human and jobskills, and their knowledge and insights built up over a period of years. Secondly, AIDS weakens or even wrecks the mechanisms that generate human capital formation. Thirdiy, the chance that the children themselves will contract the disease in adulthood makes investment in their education less attractive, even when both parents themselves remain uninfected [57].

12. Human Rights and HIV and AIDS

The AIDS patient is the terminally ill. The terminally ill patient is one with a condition that has reached *'end stage'* or with a condition for which there is no hope for cure [58]. The terminally ill patient is certain to die. By 1998, AIDS or HIV positive patients were rare to come by, but now in most health facilities in Africa, it is easy to see these patients. AIDS patients are discriminated against worldwide. In Africa, these discriminations vary from inadequate funeral arrangements and befitting burial for deaths from AIDS, job refusal, loss of accommodation and friends, family negligence, health workers' negligence including physicians, inappropriate release of test results, social stigma and many others. Victims of AIDS are treated as if they don't have any right. Human rights are not for sale. Human rights are indeed everyone's right - the sick and the healthy [58].

Medical secrets are nothing to talk of, as patients with HIV positive results become the topic of discussions in recreational and drinking spots. Some patients are informed of their results without counselling and the information spreads rapidly without the patients' consent. Often times, patients with AIDS or HIV infection are left to die in frustration and misery. The AIDS patient has his or her rights [59]. The right to be treated with dignity and without discrimination is primordial. Governments should enact laws stating clearly AIDS and HIV patients' rights

and giving guidelines on the behaviour of the general public with regards to these.

13. Role of International Organisations in the Fight against HIV and AIDS

Because of the devastating effects and the substantial obstacle to development caused by the poverty-related diseases (HIV and AIDS, tuberculosis and malaria), the former Secretary General of the United Nations, Kofi Annan, set up the Global Fund in May 2001 to combat these diseases in developing countries. Many international donors support this Fund, including the European Community and its Member States. To date, the Global Fund has committed US$ 15.6 billion in 140 countries to support large-scale prevention, treatment and care programs against the three diseases [60].

The international donor and relief agencies are now united in the global fight against AIDS. For example, in 2000, UNICEF unveiled its annual Progress of Nations report, devoted to the global effects of AIDS on children and youths and the World Bank made a pledge of $500 million to fight the epidemic in Africa [36]. The International Labour Organization wrote a scathing commentary on the plight of children in the UNICEF report and called for a global moral imperative to assist them in this era of AIDS. The United States Agency for International Development (USAID) released a ground-breaking study on AIDS and orphanhood [36].

Partnership with foreign bodies has boosted Cameroon's fight against HIV, as seen in the decrease in the cost of anti-retroviral drugs and increase free HIV screening over the years. This has helped the country to fight the pandemic by increasing the general life expectancy from 49.85 to 52.9 years and favouring economic growth since HIV is more prevalent in youths [61]. Partnership development to improve the quality of life of OVC is very important in child survival [37,62,63] in the fight against HIV and AIDS because basic needs for OVC are taken care of.

At its last Global Fund meeting in November 2011 in Ghana, funding for HIV and AIDS projects were suspended for various reasons including mismanagement and lack of financial commitment on African States. Development partners headed by UNAIDS also adopted the three zeros strategy (zero new infections, zero discrimination or stigma and zero AIDS-related deaths). The slogan of elimination of mother-to-child transmission of HIV to replace prevention is the mainstay nowadays.

Increased funding is at the centre of efforts to improve HIV and AIDS service provision in sub-Saharan Africa [64]. Developed countries have increased funding for the fight against HIV and AIDS in sub-Saharan Africa in recent years, perhaps most significantly through the Global Fund. For countries in sub-Saharan Africa, 2.3 million people received ART through Global Fund-supported programmes in 2010. In the same year, ART in Ethiopia, Ghana, Guinea, Malawi, Namibia and Tanzania was financed exclusively by the Global Fund. Between 2002 and 2010, it distributed 1.7 billion condoms, provided 62 million people with HIV testing and counselling sessions, and supported 860,000 HIV-related PMTCT courses throughout the region [64].

14. Research and HIV and AIDS

The primacy of clinical, biomedical, public health and qualitative HIV and AIDS research has been established in Africa. Ground-breaking studies on accelerated vaccine development, modified dose therapy for developing countries, a relatively cheap, simple drug treatment (using nevirapine) that significantly reduces maternal transmission and the economic implications of the disease have been carried out. Health experts in Africa and other developing regions face a major scientific dilemma on how to solve the problem of breast feeding for HIV positive mothers. These mothers can transmit the virus to their infants even after receiving nevirapine at birth. However, bottle-feeding is impractical in poor countries, and infants can easily die of dirt-induced diarrhoea diseases [36]. There are still many unanswered questions in the fight against HIV and AIDS that only research can solve. These include the care of OVC by elderly women who are also vulnerable, accessibility to ART by patients, limited funding to HIV and AIDS services from African countries, quntifiying HIV and AIDS stigma and operational research to scale-up successful interventions.

15. The Way Forward to Combat the HIV and AIDS Pandemic

African policy makers and planners at national and district levels need current and accurate information about the social, cultural, educational and economic implications of the HIV and AIDS pandemic in their countries. The collection and analysis of data about the pandemic in order to plan and implement appropriate policies, investments and intervention strategies are of crucial importance. This will help the high risk groups which are often neglected by many African countries when HIV testing and prevention policies are developed [65].

Tackling the HIV epidemic in sub-Saharan requires a sustained effort and planning from both domestic governments and the international community even though its a long-term task [66]. One of the most important elements of the fight against HIV and AIDS is the prevention of new HIV infections. HIV prevention campaigns that have been successful in sub-Saharan Africa need to be repeated, but also scaled up, especially in response to the 2013 World Health Organisation guidelines on treatment initiation. As the HIV epidemic develops, countries in sub-Saharan Africa will need to assess how to allocate what are currently limited treatment resources. Ultimately, the region requires more money and resources especially in order to deal with future lower productivity in the workforce. There are also more fundamental barriers to overcome, particularly HIV-related stigma and discrimination, the issue of gender inequality and HIV-specific criminal legislation. Removing such barriers would encourage more people to get tested and seek out treatment, and reducing the burden of HIV across the region [66].

In Cameroon, for instance, the policy and political will of the government through the National AIDS Control Committee of the Ministry of Public Health has been important to source for more funds to implement a nation-

wide OVCs development scheme to address the pressing OVC needs of basic education, acquisition of birth certificates, health care, nutrition and income generating activities as pointed out by Nsagha and colleagues [67]. The funding gap may be the most significant barrier which make it difficult for more funds to reach OVCs impact mitigation as revealed by the experience of the expenses in 2006, 2007 and 2008 in Cambodia where only less than one percent of the funds went to social protection and social service, while a lot more funds were for care, treatment, prevention, programme management and administration [68].

In Cameroon, partnering with foreign bodies has greatly assisted in the fight against the HIV/AIDS pandemic. At the local level, partnership with village development associations and government ministries is good [32]. At the international level, establishing strong and sustainable working collaborations with UNICEF, UNAIDS, WHO, UNESCO, USAID, ILO, Save the Children, bilateral and multilateral organizations, NGOs like PLAN International, CARE and the Global Action for Children can help solve OVC crisis.

16. Conclusion

Victories in the fight against HIV/AIDS include a good diagnostic test, anti-retrovirals, risky behaviour changes that predispose people to HIV and vexations like lack of a vaccine, deaths, economic loss, hardship, social stigma and continuous HIV transmission. The new vision of three zeros (zero new infections, zero discrimination and zero AIDS-related deaths), lack of financial commitment from African governments, the concentration of new infections among youths and the enactment of laws on human rights for HIV/AIDS patients canmitigate the impact of HIV/AIDS. Community coping mechanisms should be sustained for the care of AIDS orphans.

The HIV/AIDS pandemic marks a severe development crisis in Africa, which remains by far the worst affected region in the world [69]. A critical assessment of the public health burden of HIV/AIDS in Africa present a stark picture compared with other continents and regions globally. While extraordinary scientific, medical and public health accomplishments have been made in the battle against HIV/AIDS, major challenges remain, especially in the delivery of therapies and prevention tools to the resource-poor countries that need them the most. Sub-Saharan Africa has the most serious HIV and AIDS epidemic in the world. In sub-Saharan Africa, cultural constructions of HIV and AIDS based on beliefs around contamination, sexuality and religion have played a crucial role in the development of HIV-related discrimination in society. In many places, it is thought to have actually increased the number of HIV infections [70].

The toll of HIV and AIDS on households can be very severe. It is often the poorest sectors of society that are most vulnerable. In many cases AIDS causes the household to dissolve, as parents die and children are sent to relatives for care and upbringing. Much happens before this dissolution takes place: AIDS strips families of their assets and income earners, further impoverishing the poor. The pandemic adds to food insecurity in many areas, as agricultural work is neglected or abandoned due to household illness. Almost invariably, the burden of coping rests with women. Upon a family member becoming ill, the role of women as carers, income-earners and housekeepers is stepped up. They are often forced to step into roles outside their homes as well. Older people are also heavily affected by the epidemic; many have to care for their sick children and are often left to look after orphaned grandchildren [71].

HIV and AIDS have, and are still having a widespread impact in many parts of sub-Saharan Africa. At the height of the HIV pandemic, life expectancy is stagnating, even falling in some countries. Despite the rapid scaling up of antiretroviral treatment in recent years, the worst affected countries still have particularly low life expectancies. Children are also removed from school to provide care or to work to generate income. In the worst cases, households simply dissolve [71].

HIV and AIDS have also put serious pressure on the health sector, particularly on hospital resources. Moreover, there is a chronic shortage of healthcare workers, who themselves, are often living with HIV. However, in many parts of sub-Saharan Africa, antiretroviral treatment is relieving this burden. The pandemic has also impacted heavily on education. School attendance drops as children become sick or return home to look after affected family members. Many lose their parents to HIV and AIDS meaning they can no longer afford to go to school, or are required to work and generate income instead. The epidemic also impacts upon the already limited supply of teachers. However, education is regarded as key to tackling the spread of HIV. Moreover, it is cost-effective. HIV and AIDS have had an enormous impact on labour and productivity. The vast majority of people living with HIV in this region are of working age (15-49 years old).The combined impact of the pandemic on households, healthcare, education and productivity has stalled, even reversed economic development [66].

A number of HIV prevention programmes have been implemented in sub-Saharan Africa in order to tackle the regions HIV epidemic and have had varying degrees of success [66]. Progress against infection and disease has also been substantial over the past decades, with reductions in HIV prevalence and incidence seen in virtually all African countries. Even in Southern African countries with the highest prevalence of infection, changes in annual cumulative incidence range from 26% to 130% in this region. This reduction in incidence has been driven by several highly effective strategies, including the scale-up of ARV therapy, male circumcision and other medical interventions. ARV scale-up has also impacted the burden of disease and survival rates among persons living with HIV: life expectancy is increasing in countries and regions with increased access to ARVs. Additionally there has been great progress made in behavioral prevention efforts, with ABC (abstinence, be faithful, use a condom) approaches being credited with at least some of the reduction in new infections. This progress has been made possible by the collective efforts of government organizations, a concerned and engaged scientific community, and local activists who are dedicated to reducing infection and rates of disease, and thus prolonging life [65].

However, while substantial progress has been made, particularly in the last decade, there are still a number of

barriers to HIV service provision in this region. Sustainable financing *is* essential in order to expand the global HIV response. HIV-related stigma and discrimination remains a major barrier to tackling the HIV and AIDS epidemic in sub-Saharan Africa. It stops people from getting tested, seeking treatment and disclosing their HIV status publicly [66].

The presence of HIV/AIDS has further strained the already fragile relationship between livelihood and the natural and social environments of this region. There are many aspects of rural life that contribute to disease transmission of HIV/AIDS and that pose unique challenges to the population dynamics in sub-Saharan Africa [72]. Widespread AIDS-related mortality has caused a decrease in population growth for many African countries. In turn, these alterations in population dynamics have resulted in a decrease in the percentage of prime-age working adults, as well as a gender disparity, whereby, females carry a growing burden of household responsibilities. There is a rising proportion of older adults, often females, who assume the role of provider and caretaker for other dependent family members. These changing dynamics have caused many to exploit their natural surroundings, adopting less sustainable land use practices and utilizing protected resources as a primary means of generating revenue. Nevertheless, plausible solutions to overcome some of these problems do exist. If implemented, rural communities of sub-Saharan Africa can effectively work toward environmental preservation [72].

Culture is central to HIV/AIDS prevention, care and support in Africa. Behavioural analysis and intervention points of entry into a community should focus on culture rather than on individual behaviours, as commonly done in HIV/AIDS interventions [73].

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