Is HIV/AIDS Epidemic Outcome of Poverty in Sub-Saharan Africa?

Noel Dzimnenani Mbirimtengerenji

Department of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan

Undisputable fact is that 14 000 people in Sub-Saharan Africa are being infected daily with HIV and 11 000 are dying every day due to HIV/AIDS related illnesses. In this region more than 60% of the people live below UN poverty line of US$ 1 per day. Some studies have shown that poverty and HIV infection are in correlation, but none has shown whether HIV/AIDS in Sub-Saharan Africa is an outcome of poverty. This article, therefore, shows that HIV is an important outcome of poverty, with sexual trade, migration, polygamy, and teenage marriages as its predictors in the Sub Saharan region. I used the examples of 20 countries with the highest poverty level in the region to demonstrate the gravity of the HIV scourge, using the data from different international databases.

> **Correspondence to:**
Noel Dzimnenani Mbirimtengerenji
Department of Occupational Medicine and Industrial Hygiene
College of Public Health, National Taiwan University Rm 703
No 17; Shiujou Rd
Taipei; Taiwan
nmbirimtengerenji@yahoo.co.uk

> **Received:** March 21, 2007
> **Accepted:** September 12, 2007

> **Croat Med J. 2007;48:605-17**

Sub-Saharan Africa is home to 62% of the worlds' Human Immunodeficiency Virus (HIV) cases, more than 14 000 people are daily infected with the HIV, and 11 000 people are dying daily due to HIV/AIDS related illnesses (1) Also, Sub-Saharan Africa is home to 70% of the poorest people in the world. This region has the lowest gross domestic product (GDP) in the world, with more than 60% of the population spending less than US $1 a day (2).

Poverty includes deprivation, constrained choices, and unfulfilled capabilities, and refers to interrelated features of well-being that impact upon the standard of living and the quality of life (3). It is not necessarily confined to financial capital, quantified, and minimized in monetary indices. While financial capital is important, a solely reductionist ap-

proach eschews non-monetary resources, the lack of which contributes to and sustains poverty (4). Many people in Sub Saharan are in such poverty. They lack not only money, but assets and skills. Therefore, people strive to get basic needs and mostly indulge into risky behaviors, such as commercial sex, which can bring basic survival resources.

HIV infection is mostly confined to the poorest, who constitute the most of those infected in Africa. It is not simply that information, education, and counseling activities are unlikely to reach the poor but that such messages are often irrelevant and inoperable given the reality of their lives (5). Even if the poor understand what they are being urged to do, it is rarely the case that they have either the incentive or the resources to adopt the recommended behaviors.

The capacity of individuals and households to cope with HIV/AIDS depends on their initial endowment of assets – both human and financial. The poorest by definition are least able to cope with the effects of HIV/AIDS, so that immiseration among the affected populations is increasing. Even the non-poor find their resources diminished by their experience of infection (6).

Many of the poorest are women who often head the poorest households in Africa. Inevitably, such women are often engaged in commercial sexual transactions, sometimes as commercial sexual workers (CSW) but more often, as part of survival strategies for themselves and their dependents (7). The characteristics of the poor are well known as are some of the causal factors, like early marriage, which contribute to a "culture of poverty," – the fact that the children of the poor community often become the poor of the succeeding generations. Poverty is also associated with weak endowments of human and financial resources, such as low levels of education with associated low levels of literacy and few marketable skills, generally poor health status and low labor productivity as a result (8).

However, the consequences of poverty have mostly been associated with migration, sexual trade, polygamy, and teenage marriages. Different research findings have also showed that these variables are directly related to HIV/AIDS. This article illustrates how HIV remains the exact outcome of poverty, with sexual trade, migration, polygamy, and teenage marriages as the predictors in Sub Saharan region.

Commercial sex and poverty

The fact that African countries worst affected with HIV/AIDS such as Botswana and South Africa are among the most economically developed in the region contradicts the poverty-AIDS argument (Table 1). However, poverty does seem to be the crucial factor in the spread of HIV/AIDS through sexual trade. The extreme poverty compels most of the young women to indulge into risky behavior that can easily bring money and resources for survival.

Commercial sex workers are perceived to be highly instrumental in the HIV/AIDS pandemic as a high-risk group, reservoir of infection, and bridge into the general population (9). Instead of commercial sex work reduction due to HIV/AIDS prevention programs, the trade is gaining ground in Africa.

In Sub-Saharan Africa, there is a commercial element in many individual women's sexual relationships, and full-time prostitutes usually operate individually, rather than working as employees. They rent their own room and many women are paid for on the spot.

Deteriorating economic conditions have caused forced family separation in Zimbabwe. Sexual relationships outside marriage have become the norm for most men in urban areas (4). Men who work in mines often replace their rural wives with town women, which

Table 1. The distribution of poverty and HIV/AIDS in top 20 Sub-Saharan African countries*

Country	Poverty level 2006		National HIV prevalence (15-49 years, %)		No of people with HIV
	GDP per capita ($US)	Percent of population below UN poverty line (US $1 a day)	2003	2005	In millions
Swaziland	5200	69	32.4	33.4	0.22
Botswana	11400	30	24.0	24.1	0.27
Lesotho	2600	49	23.7	23.2	0.27
Zimbabwe	2000	80	22.1	20.1	1.10
Namibia	7400	56	19.6	19.5	0.23
South Africa	13000	50	18.6	18.8	5.5
Zambia	1000	86	16.9	17.0	1.8
Mozambique	1500	70	16.0	16.1	1.8
Malawi	600	55	14.2	14.1	0.94
Central African Republic	1100	57	10.0	10.1	0.25
Gabon	7200	NA	7.8	7.9	0.06
Cote de Ivoire	1600	NA	7.0	7.1	0.75
Uganda	1800	35	6.8	6.7	1.0
Kenya	1200	50	6.8	6.1	1.3
Tanzania	800	51	6.6	6.5	1.4
Cameroon	2400	48	5.7	5.4	0.51
Congo	1300	NA	5.4	5.3	0.21
Nigeria	1400	45	4.0	3.9	2.9
Ethiopia	1000	50	3.8	3.5	1.3
Guinea Bisau	2000	40	3.2	3.5	0.03

*Most of the countries have more than 50% of people below UN poverty line.

leads to divorce or reduction in monetary remittances. For women in Zimbabwe, sexual relationships represent the only means of social and economic survival (9). The traditional subordination of African women places them at disadvantage in terms of their ability to reduce their risk of HIV infection. Separated or divorced women may supplement their low incomes through prostitution.

Commercial sexual exploitation of children is another serious problem, which has the underlying causes in poverty (4), gender discrimination, war, organized crime, globalization, greed, tradition, and beliefs. Moreover, family dysfunction, and the drug trade for women has been an implication of this trade. But among all these factors poverty as a source is featured highly in most African countries. Commercial sexual exploitation of women and trafficking are two elements of the more pervasive problem of sexual abuse that originates from poverty. United Nations Development Programme (UNIDP) (4) in their annual report also noted that women victims of poverty are at high risk of unwanted pregnancies and of contracting HIV/AIDS and other sexually transmitted diseases. The minority of children who do manage to escape sex trade face social stigma, family rejection, shame, fear of retribution, and loss of future economic prospects.

In the absence of alternative opportunities to earn a livelihood for themselves and their households, millions of women in Africa indeed sell sex. While millions engage in commercial sex work on a regular basis, even more people not commonly thought of as "commercial sex workers" find themselves needing to exchange sex for money or goods on an occasional basis (9). Many women have been forced to turn to sexual transactions in order to obtain desperately needed money in communities characterized by social inequalities. Some older men with money procure sex from young women in exchange for gifts or money.

Moreover, poverty-driven sex work or sexual transactions carry the risk of unprotected sex. People whose livelihood strategies expose them to a high risk of infection are, precisely because they are impoverished, less likely to take seriously the threat of an infection that is

fatal in years from the present (10). They are after all facing the reality of day-to-day survival for themselves and their households. These young girls do not bother to use condoms, as in most cases it is the man who is responsible for that, since he is the one who pays for the sex (11). Worse still, men are willing to pay exorbitant prices for sex without a condom, which puts women in even greater temptation.

In addition to these findings, it was also reported that poverty was a key cause to commercial sex work in Swaziland. Almost a third of commercial sex workers in this country were employed and undertook commercial sex work to supplement their income (11).

Sechaba Consultants in South Africa also identified poverty as a significant factor in commercial sex work. The prevalence rate in this country was 33.4% by the end of 2005. However, the transition from employment in garment factories to commercial sex work, in order to increase the income, was a form of upward mobility for some commercial sex workers who primarily tended to provide sexual services to foreigners (11).

There are two groups of commercial sex workers in Swaziland – those mainly providing sexual services for the local Basotho and those providing sexual services mainly to foreigners (11). The latter included schoolgirls and school dropouts who became involved in commercial sex work to support their families. It was claimed that foreigners were always ready to pay more than local customers, particularly when they did not use condoms.

Malawi is losing a lot of highly-trained and experienced professionals to HIV/AIDS (12). In this country, where the adult HIV/AIDS prevalence is 12.2%, government has been advised to take pro-active steps to institute appropriate policies to control the impact of the deadly pandemic by prohibiting women's commercial sex work. Kumbanyiwa added that despite the law that prohibits commercial sex work in the country, there are many prostitutes who are exacerbating the HIV/AIDS problem. If sex workers did not have lucrative clientele who sometimes pay in US dollars, they could not have been lining up along the cities' streets every night. Indeed most of the people in Malawi who are dying from the scourge are young energetic women and men who could assist in the development.

In fact, there are a number of interlocking reasons why most women are more exposed to commercial sex and vulnerable to HIV/AIDS than men. The major reasons for commercial sex include female physiology, women's lack of power to negotiate sexual relationships with male partners, especially in marriage, and the gendered nature of poverty, with poor women being particularly vulnerable (12). Inequities in gender run parallel to inequities in income and assets. Thus, women are vulnerable not only to HIV/AIDS infection but also to the economic impact of HIV/AIDS. This is often a result of gendered power relations evident in rural households (11), which can leave women prone to the infection of HIV. With increasing economic insecurity, women become vulnerable to sexual harassment and exploitation at and beyond the workplace, and to trading in sexual activities to secure income for household needs (13).

According to IRIN news (13), the ongoing drought has left hundreds of thousands in eastern Kenya facing severe food shortages and has driven many rural people into towns in search of work and food. Young women are sent from deep within the interior to the roadside to sell honey and homemade crafts. IRIN News added that parents have resorted to sending their young daughters into the towns to trade their bodies for money to feed their families. It has been noted that women find a ready market in towns like Makindu, where truck-drivers welcome their company in the bars and in their beds. The result of this potent

mix of sex with multiple partners and excessive alcohol consumption is that Makindu in Kenya has an HIV prevalence rate almost double that of the general population. In this country, where the HIV/AIDS prevalence is now 6.1%, women are well organized for commercial sex as there is flourishing tourism (14).

Many girls in Malindi, Kenya, as soon as they have breasts, find European boyfriends (14). It was added that, because of poverty, the community has embraced commercial sex as a way of improving their living standards (14).

The tradition of early marriage among Miji Kenda, the nine linguistically related ethnic groups who inhabit the Kenyan coastal districts of Kilifi, Kwale, Malindi, and Mombasa, could be contributing to the problem of teenage prostitution.

It has been documented that poverty causes sex trafficking as well, because women have no other choice but to accept to be exported to another land where basic resources are easily found. Putting an end to this exploitative practice is to offer viable economic options for poverty-stricken women and girls.

The fact that sex trafficking is a direct product of poverty is a widely recognized by humanitarian organizations, governments, and academic researchers. United States The United States Agency for International Development pointed in their 2005 annual report that trafficking is inextricably linked to poverty (14). Wherever deprivation and economic hardship prevail, there will be those destitute and desperate enough to enter into the fraudulent employment schemes that are the most common intake systems in the world of trafficking, let alone spreading the HIV/AIDS epidemic (15).

It has to be further made clear that the real danger of becoming an unwilling victim of human trafficking syndicates and commercial sex, turns into a minor concern of a young woman who is desperate enough to hoist and relieve her family from the vicious cycle of poverty. These young women have illusions and dreams that frequently prevail over life's sad realities, especially in the youthful mind of someone very eager to escape from material deprivation. Many are prepared to face any form of consequences if only to free their families from the clutches and bondage of poverty (16).

Therefore, it is a natural fact that commercial sex is an indisputable indicator of poverty and the fatal predictor of deadly HIV/AIDS.

Polygamy and poverty

The practice of polygamy may, in most cases, be explained in terms of a "levirate," a social practice used to ensure the continued status and survival of widows and orphans within an established family structure in Africa. It has been proclaimed by proactivists that it is the only way to sustain equity of resources in poverty stricken societies (4).

The Kingdom of Swaziland has century-long traditions that are observed in all areas of life. Cultural traditions, such as respect for elders, strong extended family ties and influences, use of traditional healing practices, and deeply rooted spiritual beliefs that often blend African and Christian religions are prominent. However, it has 69% of the population below the poverty line, widely distributed polygamy, and high HIV infection rate (42%) (13). It has overtaken Botswana, which had the highest estimated infection rate. Men are allowed to marry several wives if they pay a dowry, known as *lobola*, which normally entails giving cattle to the brides' parents. It has to be pointed out that in Swaziland, one in every three people between ages 15 and 49 are HIV-positive (13). IRIN News has also reported that to prevent the spread of HIV, the King of this country in 2001 reinstated the custom that mandates that all girls under age 18 should not have sexual relations for five years after

achieving puberty. Any man who has sex with a virgin under age 18 must pay one cow to the girl's family. However, soon after reinstating the rule, the king became engaged to a 17-year-old girl in 2004. The king – who has at least 12 wives – declared HIV/AIDS a national disaster in 1999 and incited an intensive discussion on the issue. However, some Swazis claim that the monarch's own polygamous lifestyle is a very poor example for a nation dying of AIDS. The monarchy is dually led by the king and the Queen Mother. The king's mother has ruled this country since he was 18 years of age. The king's father was the world's longest reigning monarch, whereas the king's grandfather allegedly had over 100 wives and 1000 children (11). Therefore, patriarchy and polygamy are strong in the culture and history of this country and it is sometimes difficult for the king and his government as to reconcile the cultural norms and fight against HIV/AIDS.

Similar kind of social dynamic exist in Uganda as well. In Kwinkumda village, eastern Uganda, for example, most women are at risk due the polygamous marriages. In this area, when a man has only one wife, he is considered a bachelor. They believe that it is useful to have more than one wife, since if one goes to visit her parents, the other will remain to look after the husband sexually (17). In Uganda, polygamy, whether tied by legal matrimony or as a matter of common law, is the norm. Moreover, diseases associated with sex can even be viewed as male status symbols, especially in the Muslim society. Muslim men who intend to marry more women are expected to discuss their decisions with their first wives. In fact, the first wives take it upon themselves to identify and recommend the "right" women for their husbands who will assist in the development of the family. There is a belief in this region that less economically privileged women must be assisted through marriage.

However, president Yoweri Museveni in his national 2000 annual address cautioned that there may be a danger in having multiple sex partners because HIV/AIDS is mainly spread through sexual relationships. He added that although Islamic scriptures encourage polygamy, it is contrary to the approved international AIDS control measures. If the man is not sexually satisfied with the official wives he is tempted to have other women. Therefore, the effects of spreading HIV/AIDS within polygamous marriages are more fatal than in monogamous relationships if men have extra-marital sex partners. This is so as there is multiple cross infection. It must be added that Uganda, where only 35% of the people live below the poverty line, has achieved remarkable and unique success by decreasing its HIV/AIDS peak infection rate from 21 percent in 1989 to a every low level of 6 percent in 2002. The strategies like reduction in polygamy did not appear out of thin air. The president of Uganda, Yoweri Museveni, and his wife, Janet, describe themselves as Christians and have emphasized the role of biblical values in their governing, rejecting the polygamous marriages.

According to BBC News (17), an Ethiopian man with 11 wives and 77 children has been urging people not to follow his example and gave advices on family planning and contraception. The man learnt a lesson after seeing his fortune disappear under the competing demands of his enormous polygamy family. Ayattu Nure, aged 56, even urged people not to get married. Such effects of poverty and polygamy are devastating. Polygamy does not bring fame but a lot of responsibilities. Also, polygamous women, tired of waiting for their husbands, indulge into extra-marital affaires and expose themselves to the deadly HIV. Even if only one woman contracts the virus eventually everyone would be infected.

In addition to the traditional marriages, the leaders of the affiliated Christian sects issued a 23-page policy document on HIV/AIDS policy in Zimbabwe (18). The document was drafted by members of the Union for the Development of Apostolic Churches in Zimbabwe, which is an umbrella group of Apostolic and Zionist churches made up of more than 70 bishops from each of the country's 10 provinces (19). The document calls for the abolition of polygamy, child marriage, and inheriting of brothers' widows, which the sects previously approved. In this document they noted that there is a danger if the husband cannot satisfy the polygamous wives, they will be tempted to look for sex outside the marriage, and one of the partners may be infected and this will increase the risk of contracting and spreading HIV. The Zimbabwean government called the move historic in the fight against the epidemic. Sect members who wish to marry within their churches will be urged to obtain HIV tests and counseling and reveal their status to their partner. Zimbabwe is currently struggling with critical poverty as there are now over 80% of the people living below poverty line.

Although, as proactivists claim, cultural values of marriage have to be maintained, polygamy is causing more harm than good and remains the major predictor of increased HIV infection.

Teenage marriages and poverty

Throughout the world, marriage is regarded as a moment of celebration and a milestone in adult life. Sadly, the practice of early marriage gives no such cause for celebration in most African communities. Imposing marriage upon a child means that the girl or boy's childhood is cut short and their fundamental rights are compromised. Young married girl is exposed to torture, abuse, and the risk of the deadly HIV/AIDS infection.

Some authors have looked at the reasons for the perpetuation of early marriage and its possible increase in populations in Africa. A key factor is poverty, with the marriage of children often seen as a strategy for economic survival. In addition, it is perceived as a way to protect girls from HIV and STI. However, evidence points to the contrary.

Some young girls are forced into marriage at a very early age (20). Others are simply too young to make an informed decision about their marriage partner or about the implications of the marriage itself. They may have given what passes for "consent" in the eyes of the custom or law, but in reality, consent to their binding union has been made by others.

In some societies in Africa, parents withdraw their girls from school as soon as they begin to menstruate, fearing that exposure to male pupils or teachers puts them at risk from rape. These practices are all intended to shield the girl from male sexual attention (21), but in the eyes of concerned parents, marriage is mostly seen to offer the ultimate "protection" measure and, more commonly, an economical source.

Early marriage deprives a girl of her adolescence (21). In many traditional societies, the idea of an adolescent period between puberty and adulthood is alien. A girl who menstruates can bear a child, and is therefore "a woman." This put girls in an awkward position for early marriage with the fact that the law covers everyone up to age 18 in most African countries and regards childhood as a process of development – one that does not end with a definitive physical maturity marker.

Furthermore, WHO (22) also noted that poverty played a central role in perpetuating teenage marriage. Parents want to ensure their daughters' financial security, since daughters are considered an economic burden in

the family. Parents think that feeding, clothing, and especially educating girls is costly. A family's only way to recover its investment in a daughter is to have her married in exchange for a dowry as soon as possible. In most of African countries, the dowry decreases as the girl gets older, which tempt parents to have their daughters married at a younger age. These are not necessarily heartless parents but, rather, parents who try to survive under severe conditions of poverty. Additionally, child marriages form new alliances between tribes, clans, and villages; reinforce social ties; and stabilize vital social status. However, in most cases their dreams end prematurely when the girl becomes sick or die at the tender age due to HIV/AIDS.

Indeed, girls who marry young in Africa are mostly from poor families and have low levels of education. Traditionally, if they marry men outside their village, they must move away, which may cause loneliness and isolation. As these girls assume their new roles as wives and mothers, they also inherit the primary job of a domestic worker. Because the husband has paid a hefty dowry, the girl is also under an immediate pressure to prove her fertility. Girls often embrace their fate and bear children quickly to secure their identity, status, and respect as an adult. As a result, these young girls have high total fertility rates but have missed the opportunity to be children – to play, develop friendships, bond, become educated, and build social skills. This vicious cycle of poverty is compounded by the pandemic HIV/AIDS that is in many cases an outcome in the process for the forced teenage marriages.

Teenage marriage only continues the cycle of poverty. In addition to the lost potential of girls who are married off, there are real costs associated with women's health and infant mortality. Teenagers younger than 15 are five times more likely to die during pregnancy or childbirth than women in their twenties, and mortality rates for their infants are higher as well. Child brides may face a higher risk of contracting HIV and other sexually transmitted diseases than unmarried sexually active teenagers, according to research by the University of Chicago (23).

A government official in Kuria, Kenya, has recently rescued five girls who had been taken out from their classrooms to be forcefully married (24). In most cases, the affected children are primary school children. It is unfortunate that while other communities are discarding traditions that drag down their socio-economic development, the Kuria community still embraces the custom of marrying off their children. It is something that should be stopped because it denies girls the right to education and may expose them to HIV/AIDS. The Kenyan government is taking stringent measures on parents engaging their children in forced marriages. However, some members of the community often cross into neighboring Tanzania where they perform the marriage rituals and earn the money for selling their daughters (25). Such situations are very common not only in Kenya and Tanzania but also the entire Africa (26).

A recent study in five very poor villages in Egypt found young girls being married off to much older men from oil-rich Middle Eastern countries via brokers. Poverty-stricken parents are persuaded to part with the daughters through promises of marriage, even or false marriages that are used to lure the girls into prostitution abroad. Such practice has lead to a decrease in girls' education in this country.

There are also reports from HIV/AIDS researchers in Eastern Africa that marriage is seen as one option for orphaned girls by caregivers who find it hard to provide for them. Some countries in the grip of on-going civil conflict like Sudan show acute symptoms of child-related social stress – increasing child slavery and trafficking, rising numbers of chil-

dren on the streets, very young prostitutes and laborers, and high levels of child neglect and abandonment, let alone increased level of HIV infection (22).

In Côte d'Ivoire, a target country for the President's Emergency Plan for AIDS Relief (PEPFAR) girls in the poorest 20% of households are three times more likely to be married young due to poverty (22). Moreover, In Senegal, a Millennium Challenge Account (MCA, 2005) noted that young girls in the poorest 20% of households are more than four times as likely to be married as girls in the richest families.

East African country of Ethiopia has one of the highest rates of child marriage in the world, despite a national law prohibiting the practice. Nationwide, 60% of girls under the age of 18 are married. In the Amhara region, half of girls younger than 15 are married (25). It is worrying for the government as the prevalence of HIV in this second highest populated country in Africa with over 70 million people is escalating.

Not only are husbands, on average, older than boyfriends, they are also more likely to be infected. Clark (20) calculated that in Kisumu, Kenya, 30% of male partners of married adolescent girls were infected with HIV, while only 11.5% of the partners of unmarried girls were HIV-positive. Similarly, in Ndola, Zambia 31.6% of married girls' partners compared with 16.8% of unmarried girls' boyfriends were found to carry HIV. A concern about large age gaps between sexual partners is increasingly present in national AIDS policies. Yet these policies often fail to acknowledge the role of marriage in creating such large age differences.

Similarly, early marriage is common in Zambia, and 42% of women were married before the age 18. Perhaps more unique to Zambia is that less than a half (44%) of sexually active adolescent girls are married, suggesting relatively high rates of premarital sexual activity (9). Strikingly, however, married adolescents represent a clear majority of those who reported having unprotected sex (82%), mainly due to a higher frequency of sex within the marital relationship rather than a decrease in condom use. Thus as shown earlier, married girls are more than 13 times as likely as unmarried girls to have unprotected sex. On average, husbands of girls married before age 20 were found to be 6.7 years older than their wives.

While Zambia has promoted several large youth outreach and family life education programs, these programs do not reach the sizeable proportion of adolescent girls who are married. Thus in Zambia, where 17% of adults are HIV positive and more than 50% are under the UN below poverty line (Table 1), there is a need to implement special protection strategies to reach married adolescents. It must be emphasized that ignoring the risks that young girls have may undermine the existing HIV intervention programs (27).

What is more stressful is that marriage for many teenage girls is the beginning of frequent and unprotected sexual activity, not only in the family but in extra-marital affairs. The younger the bride, the more sexually active they are. The frequency of sexual intercourse among married girls is far higher than among unmarried sexually active girls (2). Analysis of Data for Health Services (DHS) data by WHO (22) shows that in 27 of 29 countries, more than half of recent unprotected sexual activity occurred within marriage.

One fundamental difficulty with teenage marriage is that girls are financially dependent on their husbands and, therefore, they lack the power to make demands upon them. They cannot ask their husbands to get an HIV test; they cannot abstain from intercourse or demand condom use; they cannot insist that their husbands be monogamous; and ultimately, they cannot leave because they cannot re-

pay their high dowry. In addition, returning to their parents' home may not be an option because divorce is culturally considered unacceptable and leaving their husbands may have serious implications on the social or tribal ties that were developed during the marriage (9).

In Moshi, Tanzania, HIV prevalence was greater among young women who started having sex at an early age (≤15 years). The HIV prevalence peaked early at 10% among 25-29 year olds (2). This suggests that most infections in women occur at a younger age, during the first few years after sexual debut. Immature genital tract and cervical ectopy, which is common in young women might increase the risk. Untreated sexually transmitted diseases may increase the biological susceptibility. Furthermore, it was noted that women mostly have older partners, which may likely be previously infected.

Therefore, poverty still remains the root of early marriage for most young girls in Africa. If current patterns continue during the next decade, more than 100 million girls in Africa will be married before the age of 18.

Migration and poverty

Migration is often seen simply as a "flight from poverty;" there are no opportunities available locally, so people migrate in order to survive in another region or country. An example of this is the flight from a devastating famine in Zimbabwe, with people walking great distances to reach feeding stations in South Africa run by international agencies and charities. There are also people running away from the civil war in Sudan, Mozambique, Angola, and Congo. When these people are displaced they have no shelter, food, or clothes. As a result, most of the refugees indulge into commercial sex work as a means of survival. Others tend to marry local people so as to secure citizenship in fear of deportation. However, in some cases migration occurs not because of civil war but because of poverty in their indigenous societies.

At the same time, exploitation and disruption associated with the population movement contribute to spreading the deadly HIV/AIDS.

Numerous studies have established a clear link between elevated HIV seroprevalence and a short duration of residence in a locality, traveling along major transportation routes, immigrant status, and international travel to the Sub Saharan region (25). Large-scale economic migration has been a common phenomenon particularly in southern African region (2). Historically, men have migrated from Lesotho, Botswana, Swaziland, Mozambique, Malawi, Zimbabwe, and Zambia to seek work in South African gold, platinum, and diamond mines. The migrant labor system in South Africa was based on "hostels," where male mine workers lived in barracks for long periods or indefinitely, separated from wives and families. Men passed the time drinking and seeking female companionship and sex, either as long-term sexual partners, casual short-term partners, or cash clients (28). So, the movement of people has brought infections from other parts of the region to "destination" countries such as South Africa and again back to the countries of origin (29). It was found out that the HIV/AIDS prevalence among Malawian migrants to South Africa rose from 3.8% in 1986 to 21% in 1989, with an African pattern of transmission (30).

It has to be pointed out that, plagued by widespread poverty and illiteracy, Sub-Saharan Africa is grappling with the pressures of rapid urbanization and vast population migrations. In the face of these obstacles, HIV continues its relentless assault. It is estimated that 4.2 million sub-Saharan Africans died of AIDS in 2006. Indeed, the epidemic is taking a downward spiral that is putting many of the health

and development gains of the past several decades in question.

However, it is important to recognize that migration can involve costs, economic and social, as well as benefits. Thus, migration creates the conditions that lead to people to feel poor, which in turn leads them to further migrate as they move in order to satisfy new-found aspirations (22). This process is perhaps at the root of greatest part of migrations, with the primary driving force being a desire for a better life rather than absolute deprivation. This means that migration is thus both the creator and the product of poverty.

It was emphasized that as a solution to poverty most young people in Africa resort to migrate to neighboring countries or across the Atlantic and Indian ocean (2). For the last 10 years there have been numerous cases of deportation of young Africans from Spain, England, and Italy back to Africa. Most of the studies on these deported young men and women indicate that they resorted to illegal migration in search for a job.

Easy generalizations are impossible to make due to limited published data but it is likely that the relative impact of migration on poverty, and of poverty on migration, varies by the level of development of the area under consideration. In this part of the world and under certain conditions, poverty may be a root cause of migration, whereas in other parts, under different conditions, the poor will be among the last to move.

Equally, in some areas, migration may be an avenue out of poverty, while in others it contributes to an extension of poverty. As the majority of the poorest countries in the world are to be found in Sub-Saharan Africa, it appears likely that there is a relationship between migration and poverty. However, this is different from migration occurring in the more dynamic economies of eastern Asia and Europe.

As a working hypothesis, it can be proposed that in Sub-Saharan Africa poverty is a root cause of population movement, since migration is there often central to survival, while in eastern Asia migration occurs more because of the improvement of living standards. However, there is a danger of over-generalization when Sub-Saharan Africa is concerned, as there is a number of auxiliary hypotheses in such vast and diverse region. Therefore, considering that HIV/AIDS prevalence is so high, the alternative hypothesis that migration lead to HIV cannot be logically and scientifically denied. For some countries, the number of undocumented migrants is substantial. For example, about 1 million illegal entrants to South Africa were apprehended between 1992 and 2000 (31). In the country where 5 million people are HIV positive, the vast majority of migrants came from the neighboring Mozambique, Malawi, Zambia, Zimbabwe, Namibia, and Angola, which have lower social economical indicators than south Africa (2).

What changes is the less tangible quality of life when a number of potential migrants begin to judge their own conditions relative to those of people living elsewhere. Studies elsewhere have shown that migrant workers are more susceptible to HIV than local workers (32).

To crown it all, massive migration of young, unmarried adults from "conservative" rural environments to more sexually permissive African cities in recent years has been regarded as partly responsible for the much higher HIV infection levels observed in urban than in rural areas (2). In a number of countries, the HIV/AIDS epidemic in rural areas has resulted in a return of community members who have been living and working in towns and cities. Evidence indicates that rural communities bear the cost of their migrants contracting HIV/AIDS both through the loss of income remitted by a worker who has fallen ill, and through the cost of supporting the

family member if they return home once they are ill (32).

It is, therefore, not difficult to assume that migration is not only a predictor of HIV/AIDS but also the contributing factor of poverty. The information above has clearly revealed that poverty causes people to migrate in search of greener pasture yet they meet the fate of the HIV/AIDS pandemic.

Conclusion

This article explored how HIV remained the exact outcome of poverty in the Sub Saharan region with sexual trade, migration, polygamy, and teenage marriages as its predictors.

In this region, there is an alarming rate of sexual trade with poverty as the main reason. The migration of people in the region also exacerbates the prevalence of HIV/AIDS. Cultural practices like polygamy catalyze the pandemic. Moreover, poverty also forces most young girls to have early marriage that further puts them at risk (33). Such network, despite limited data obtained so far, gives an epidemiologist a possibility to conclude that, indeed, HIV/AIDS is an outcome of poverty.

Unless and until poverty is reduced or alleviated, there will be little progress either with reducing transmission of the virus or an enhanced capacity to cope with its socio-economic consequences. There is a need to take a multi-sectoral approach with a number of capacity-building programs to combat the scourge.

Simple answers to the poverty problem do not exist, but at least recognition of the association of poverty and HIV/AIDS existence is a step toward its solution. The next step has to be the development of policies and programs that address the inter-relationships between poverty and the indicators addressed above. Such activities can make a difference for development outcomes. Programs that address poverty today will facilitate socio-economic development tomorrow and, as a result, people will not have to indulge into immoral behavior for survival. If the predictors of poverty are addressed now, then we can assume that Africa will become a pole of development in following decades.

The HIV/AIDS scourge requires our maximum attention if the innocent lives of people are to be spared from perishing. The global physical and economical actions are needed to reverse the pandemic. If we do not urgently deal with the predictors of HIV/AIDS in this region, neither the 2010 health Vision targets nor the Millennium Development Goals (MDG) (6) will be met. Moreover, the Millennium Goals will be just another unsuccessful project as was "Health for all by the year 2000!" in the past century.

References

1 WHO annual report. Global HIV/AIDS overview. Geneva (Switzerland): WHO; 2005.

2 United Nations Programme on HIV and AIDS. World AIDS Campaign 2004: women, girls, HIV and AIDS. Available from: *http://data.unaids.org/WAC/wac-2004_strategynote_en.pdf*. Accessed: October 18, 2007.

3 UNDP. Conceptual shifts for sound planning: towards an integrated approach to HIV/AIDS and poverty. Pretoria: UNDP; 2002.

4 Cohen D. Socio-economic causes and consequences of the HIV epidemic in Southern Africa: the case of Namibia. New York (NY): UNDP; 1993.

5 Rugalema G. Mutangadura G, Jackson H, Mukurazita D, editors. AIDS and African Smallholder Agriculture. Harare: SAfAIDS; 1999.

6 UNDP. Conceptual shifts for sound planning: towards an integrated approach to HIV/AIDS and poverty. Pretoria: UNDP; 2002.

7 Bwayo JJ, Mutere AN, Omari MA, Kreiss JK, Jaoko W, Sekkade-Kigondu C, et al. Long distance truck drivers. 2: Knowledge and attitudes concerning sexually transmitted diseases and sexual behaviour. East Afr Med J. 1991;68:714-9. Medline:1797534

8 Mugonyi D. Seek treatment, Kibaki urges AIDS patients. The Daily Nation. 2003 Jul 14.

9 USAID annual report. Available from: *http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/publications/annual_reports/index.html*. Accessed: October 18, 2007.

10 Drimie S, Mbaya S. Land reform and poverty alleviation in southern Africa: towards greater impact. SARPN conference on land reform and poverty alleviation in southern Africa. Pretoria 2006.

11 Tobias BQ. A descriptive study of the cultural mores and beliefs toward HIV/AIDS in Swaziland, Southern Africa. Int J Adv Couns. 2001;23:99-113.

12 Walker J. Common causes of HIV/AIDS in Sub-Saharan Africa, HIV/AIDS workshop. Lilongwe: National AIDS Commission; 2004.

13 SWAZILAND. Has Swaziland turned the corner in the fight against AIDS? Irin News 5 December 2006. Available from: *http://www.irinnews.org/report.aspx?reportid=62330*. Accessed: October 18, 2007.

14 USAID region report. Economic deprivation of African women; Geneva: USAID; 2005.

15 Masanjala W. The poverty-HIV/AIDS nexus in Africa: a livelihood approach. Soc Sci Med. 2007;64:1032-41. Medline:17126972

16 Gonzales SM. Poverty and sex trafficking population. Available from: *http://www.captivedaughters.org/gatesfoundation.htm*. Accessed: October 2, 2007.

17 Adow M. Polygamy no fun, admits Ethiopian BBC News, 27 July 2005, *http://news.bbc.co.uk/2/hi/africa/4720457.stm*. Accessed: October 18, 2007.

18 People's Daily Online. Christian Church launches HIV/AIDS policy document in Zimbabwe. Available from: *http://english.peopledaily.com.cn/200511/05/eng20051105_219197.html*. Accessed: October 18, 2007.

19 Family Health International. Sexual work and HIV/AIDS; regional report. Nairobi: Family Health International; 2005.

20 Clark S. Early marriage and HIV risks in sub-Saharan Africa. Stud Fam Plann. 2004;35:149-60. Medline:15511059

21 Bryceson D, Banks L. End of an era: Africa's development policy parallax. J Contemp Afr Stud. 2000;19:5-25.

22 WHO. HIV/AIDS global review. Geneva (Switzerland): WHO; 2006.

23 UIC. University conference report on African studies. Teenage marriages in Africa. Chicago (IL): University of Illinois at Chicago; 2005.

24 Africanews. Teenage Marriages – a Most Foul Custom. Available from: *http://www.bluegecko.org/kenya/tribes/kuria/articles-africanews.htm*. Accessed: October 18, 2007.

25 Brockerhoff M, Biddlecom A. Migration, sexual behaviour and the risk of HIV in Kenya. Int Migr Rev. 1999;33:833-56.

26 United Nations. Office of the High Commissioner for human rights. The convention on the rights of the child. Available from: *http://www.ohchr.org/english/law/pdf/crc.pdf*. Accessed: October 2, 2007.

27 Balyamajura H, Bachmann M, Booysens F. Rural development and HIV/AIDS: results from a pilot study in Qwaqwa, Free State Province, south Africa. Proceedings of National Land Tenure Conference; 2001 Nov 26-30; Durban.

28 Dwasi J. Impacts of HIV/AIDS on natural resource management and conservation in Africa: case studies of Botswana, Kenya, Namibia, Tanzania and Zimbabwe. Proceedings of the Nairobi AIDS Conference. Nairobi; 2002.

29 UNDP. Conceptual shifts for sound planning: towards an integrated approach to HIV/AIDS and poverty. Pretoria: UNDP; 2002.

30 Ministry of Health annual report. Migration in Malawi and South Africa. Lilongwe: Malawian Ministry of Health; 2000.

31 CDC conference report. Migration and HIV in Africa. Washington (DC): CDC; 2005.

32 Balyamujura H, Jooste A, van Schalkwyk H, Geldenhuys F, Crew M, Carstens J, et al. The impact of HIV/AIDS on agriculture. Pretoria: National Department of Agriculture, University of the Free State; University of Pretoria (Centre for AIDS) and the Agricultural Research Council; 2000.

33 United Nations. Office of the High Commissioner for human rights. Convention of consent to marriage, minimum age for marriage, and registration of marriages. Available from: *http://www.unhchr.ch/html/menu3/b/63.htm*. Accessed: October 18, 2007.