

HIV/AIDS and Mental: The Interaction in sub-Saharan Africa

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### Abstract

In the battle against HIV/AIDS in sub-Saharan Africa, disparity in mental health care plays a key part in stopping the spread of the deadly disease. Currently it is believed over 50 percent of persons living with HIV/AIDS have a mental illness. Due to increases in availability in life-prolonging medicine, more people than ever are alive with HIV/AIDS in the sub-Sahara, further increasing the mental health caseload of the region. This creates social outcomes beyond life expectancy in parenting capability and child outcomes, work productivity and economic development, as well as in the public health sector. Interventions must focus on increasing mental health support groups, incentivizing mental health workers to work in the sub-Sahara, and encouraging disclosure and cultural education concerning gender inequality and country-biased stigmas in HIV/AIDS contraction and spread. These must be performed in combination with pre-existing antiretroviral therapy. HIV/AIDS will be most efficiently ameliorated when treated in combination with mental health therapy.

*Keywords:* HIV/AIDS, mental health, sub-Saharan Africa

*Santo To-Kena is an AIDS social worker in a small Ugandan village. She is the proud mother of five children. Sometime ago, Santo To-Kena contracted HIV/AIDS from her husband. When her husband died, Santo was left ill equipped to deal with the psychological trauma as well as the property decisions now facing her. Throughout the transition, extended family members swooped in and confiscated all of Santo's property. She was left unable to care for her five children and consequently sent them off to live with close relatives. Her children had become AIDS Orphans. Following this experience, Santo described herself as entering a period of extreme sadness. Santo, like many of her HIV positive peers, was now facing mental illness in combination with her terminal HIV/AIDS diagnosis. (The Vanderbilt Chapter of Face AIDS, 2007, December 16).*

As is evidenced through this story and many more like it, HIV/AIDS and mental health are inexorably linked. Up to 20 percent of AIDS diagnosed individuals will have psychiatric problems as their first medical symptoms of AIDS (Stern, Perkins, & Evans, 2000). The reciprocity in consequences and costs is also true of treatment initiatives and interventions. Thus in the battle against HIV/AIDS, mental health must be of top concern. Eliminating one without treating the other will prove inefficient and ineffective. This is of special importance in sub-Saharan Africa where over two thirds of the worlds HIV/AIDS positive people reside. In understanding the interaction between mental and physical health, the costs of their combined power and the outcomes which increase future vulnerability, AIDS can be better fought to the two-fold benefit of those suffering in the sub-Sahara.

### **Mental Health and AIDS in sub-Saharan Africa: The Interaction**

#### **AIDS**

With two in every three HIV/AIDS positive persons residing in sub-Saharan Africa, as well as 90 percent of diagnosed children, the deadly epidemic is just beginning to achieve the research and policy attention it warrants in this part of the world. Physical ailments are ultimately what cripple and kill a diagnosed person; however, mental health disorders play a

crucial role in intervention and treatment for persons living with HIV/AIDS (PLWHA) (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2007).

The Joint United Nation's Programme on AIDS (UNAIDS) estimates that 67 percent of PLWHA worldwide live in sub-Saharan Africa. This equates to 22.5 million people of the 33 million diagnosed worldwide (Barton-Knott, 2009). Additionally, diagnoses disproportionately affect women and girls. Women account for 60 percent of all HIV infection in the sub-Sahara—4.8 percent of sub-Saharan women compared to 3.2 percent of sub-Saharan men are HIV positive (Population Reference Bureau, 2010). While, recent research is showing the AIDS epidemic is no longer a growing problem in the sub-Sahara, the magnitude at which it has stabilized leaves no room for relinquished efforts. In most countries stabilization has occurred at alarmingly high levels.

By definition, human immunodeficiency virus (HIV) is a virus affecting one's immune system by making a person progressively more susceptible to infections. The virus generally takes over ten to fifteen years to reach full effect, but it advances slowly and deliberately, impairing a victims functioning. HIV is terminal and in its most advanced stage is called acquired immunodeficiency syndrome or AIDS (World Health Organization [WHO], 2011a). Sub-Saharan Africa constitutes almost three fourths (72 percent) of HIV/AIDS deaths worldwide (Barton-Knott, 2009). In research completed in 2008, it was estimated that 14.8 million children in the region had lost one or both parents to the virus, implicating HIV/AIDS as an issue of severity beyond its physical consequences. Generally, HIV is contracted through unprotected sex, contaminated blood in transfusions, or sharing needles. Transference also occurs between mothers and children during pregnancy, childbirth and breastfeeding. Currently, there is no cure for the virus; however, a rigorous compliance with antiretroviral (ARV) drugs

has been proven to slow down virus progression (WHO, 2011a). ARV therapy has just become widely available in the sub-Sahara over the past five years.

## **Mental Health**

In contrast to the concrete and general predictability of physical ailments, the illusive nature of mental illness has made it one of the most under-researched and least well understood health concerns in the sub-Sahara. Additionally, the presence of long term conflict in many of these regions may explain the higher incidence rate for mental illness. It is currently estimated that sub-Saharan countries have incidence rates of depression, anxiety, and PTSD at rates of 20-60 percent (Jamison et al., 2006). WHO currently estimates that only half of African countries have mental health policies covering less than 70 percent of the region's population (World Health Organization Department of Mental Health and Substance Abuse, 2005). Additionally, little help exists in diagnosing mental health due to a shortage in mental health workers. In the United States, there exist 137 psychiatrists for every one million people; in sub-Saharan countries (excluding South Africa) one trained psychiatrist usually serves the same size population of one million. The interaction of HIV/AIDS with these mental illnesses is a robust finding that will be discussed in the subsequent section. Presently, the most prevalent and widely researched mental illnesses in the sub-Sahara -- depression, anxiety, substance abuse, and forms of PTSD -- will be discussed.

### Depression

Depression is the most prevalent and understood of mental illnesses for this region with an incidence rate of 15 to 18 percent and a lifetime prevalence rate between 18 to 30 percent (Jamison et al., 2006) of people. Depression is defined as losing interest or pleasure, feeling

guilty for certain feelings, having disturbed sleep, low energy and poor concentration (WHO, 2011b). However, from an anthropological level, depression in the sub-Sahara is manifested in different ways than many industrialized countries. Due to the lack of understanding and denial of mental illness as a legitimate health concern, depression is often somaticized (stifled to the point of incurring physical pain) or experienced through delusions of persecution. However as African countries become increasingly developed, symptoms common of depression in the western world are being displayed more often (Perez & Junod, 1998). Studies have also shown depression's comorbidity with other illness such as substance abuse and anxiety (Jamison et al., 2006).

#### Anxiety and Common Mental Disorders (CMD)

Anxiety is generally placed under the category of CMD, or common mental disorders.

Anxiety disorders are generally defined as a persistent state of apprehension with constant feelings of stress and worry as well as physical symptoms of sweating and heart palpitations

("Anxiety", 1999). Persons categorized here are responsible for the majority of primary health care visits by mentally ill people in the sub-Sahara because of the accompanying physical ailments or somaticization of the disorder (Jamison et al., 2006). Anxiety, like depression, has both environmental and genetic causes. Research has not recently assessed the prevalence of anxiety in the sub-Saharan region as a whole; however, it has shown that anxiety disorders and CMDs are significant contributors to the clinical workload in general health clinics of the sub-Sahara (Jamison et al., 2006). Additionally, countries such as Tanzania and South Africa have discovered high comorbidity between anxiety and HIV/AIDS.

#### Substance Abuse

The relatively recent change in alcohol and substance abuse consumption in sub-Saharan Africa is exhibited by the region having one of the sharpest increases in per capita alcohol consumption in the world (WHO 1999b). Substance abuse is defined as the irresponsible and harmful use of psychoactive substances like alcohol and illicit drugs that can lead to dependence (WHO, 2011c). Substance and alcohol abuse affect HIV/AIDS in two pathways. First, abuse of these substances leads to greater susceptibility for contracting the HIV virus. Second, those already with the virus see an increased susceptibility to abusing alcohol and substances.

Alcohol disease affects approximately 7.9% of the population (Chersich, Rees, Scrogie, & Martin, 2009). Impulsive and unsafe behaviors associated with substance abuse make it one of the biggest concerns to public health. Additionally, substance abuse is a crossover of both physical and mental health concerns creating a need for interventions that successfully address both issues together. Addiction is the core deficit associated with substance abuse as abusers place priority on accessibility and time spent using substances above other obligations (WHO, 2011c). Alcohol abuse rates for children have been on the rise. For example, in Zambia, 31 percent of fourteen year olds report consuming alcohol underage (WHO 1999b). Furthermore, the sub-Sahara has seen a rise in road traffic accidents as well as pancreatic disease and liver cirrhosis, which incriminates the rise in unsafe and excessive use of alcohol (WHO 1999b).

The United Nations Office on Drugs and Crime currently estimates that Cannabis, a material used in hemp, seed, oil and for some medicinal purposes, is the most widely abused drug in sub-Saharan Africa. Cannabis contains the ingredient THC which causes a “high.” Nearly 64 percent of all people in the Africa who are treated for drug related issues abuse Cannabis. The remaining treatments cover primarily Opiates (19.6 percent), Cocaine (8.7 percent) and Amphetamines (4.9 percent) abusers (United Nations Office on Drugs and Crime,

2010). In all cases of drug and alcohol abuse in the sub-Sahara, as well as worldwide, men show higher prevalence rates than women. Like the previous mental illnesses discussed, substance abuse is also comorbid with other mental illnesses.

Substance abuse in the form of injected drug abuse is on the rise in the sub-Saharan region. While the risk of HIV/AIDS contraction through infected needles via illicit drug injection is common in South and East Asia as well as Eastern Europe, a 2007 report by UNAIDS claimed that contraction from injection has seen a recent rise in the sub-Saharan region. The report states that currently, the use of dirty needles results in ten percent of all HIV/AIDS cases worldwide (Barton-Knott, 2007, May 14). Currently, there are approximately 1.78 million abusers of injected drugs in the sub-Sahara. Substance abuse of this kind is controlled by the quality, price and availability of controlled substances—generally heroin. As quality goes down or price goes up, injecting becomes the most economical means of obtaining a high. Thus, the poor developing countries of the sub-Sahara are at increasing risk. Additionally, many drug injectors partake in prostitution to maintain their drug habit. This multiplies abusers risk HIV/AIDS contraction (AVERT: AVERTing HIV and AIDS, 2011d). Thus the rising price of recreational drugs is affecting the HIV/AIDS epidemic in the sub-Sahara.

#### Posttraumatic Stress Disorder (PTSD)

As the most war torn region in the world, sub-Saharan Africa is a fertile breeding ground for the manifestation of posttraumatic stress disorder (PTSD). WHO reports that 41 percent of deaths in the region are due to intentional injuries, the most common of which is casualties from war. The sub-Sahara comprises of 22 percent of the world's war-related injuries, the highest of any other region (WHO, 2002b). Additionally, stigmatization and low levels of cultural understanding play a role in enacting PTSD symptoms. This is seen with HIV/AIDS patients

who often experience PTSD upon initial diagnosis and disclosure (Adewuya et al., 2009).

Posttraumatic stress disorder is defined as an anxiety disorder with specific disabling symptoms that follows a distressing event. Symptoms include reliving the event through thoughts or nightmares, avoiding activities that remind a person of the event, losing interest in important activities and other people, and the inability to relax coupled with high irritability (“Post-traumatic stress disorder”, 2003). PTSD is diagnosed in nearly 1 in every 125 people in the sub-Sahara with greater prevalence amongst women (Ayuso-Mateos, 2000). One study of various countries throughout the world including those in the sub-Sahara found rates of PTSD amongst women and children to range between twenty and sixty percent (de Jong, 2002). Consequently, many people with PTSD in this region are unaware of its clinical diagnosis yet are unable to neither cope with the horror of their memories nor find effective therapy.

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### **Mental Health and HIV/AIDS: The Undeniable Interaction**

The prevalence of mental health disturbances in the sub-Sahara show clearly that this region’s health is suffering in more ways than the AIDS/HIV epidemic. Research reveals that by contracting HIV/AIDS a person not only inherits a lifelong host of physical illnesses but also an increased likelihood for psychological trauma (Brandt, 2009). It is believed that as many as half of the people in sub-Saharan Africa diagnosed with HIV/AIDS have a psychiatric disorder (Brandt, 2009), including two thirds of pregnant mothers (Bernatsky et al., 2007). The contrast of psychosis prevalence in infected versus non-infected Africans is simply staggering. Thus, psychological illness may be an outcome or behavior trigger of the HIV/AIDS virus. Research from this developing field has shown that the interaction between the virus and mental health is undeniable and that addressing one without addressing the other would prove to be fruitless.

For example, within positively diagnosed persons in the sub-Sahara, depression has been cited as the most prevalent mental disorder, striking about 30 percent of the HIV/AIDS positive mentally ill (Brandt, 2009). UNAIDS has reported that young women ages 15-19 have a particular vulnerability to contracting the virus compared to other age groups (Barton-Knott, 2009). This puts these women at their greatest risk as they are entering puberty and experiencing associated physical changes. Understanding the health of the whole person is the best way to improve her well-being; consequently, mental health and physical health are particularly interconnected when it comes to battling HIV/AIDS in sub-Saharan Africa.

Due to the progressive nature of HIV/AIDS, disease severity also plays an interactive role in the mental health of sub-Saharan people. As could be predicted, greater disease severity is associated with increased mental health issues including clinical depression, dysthymia (long term depression), suicidality and self-reported negative affects (Brandt, 2009). Depression and distress has been researched as affecting early stages of diagnosis more heavily than later stages (Els et al., 1999) and that with growing severity in the disease, sub-Saharan men show less distress at advanced stages of the virus than sub-Saharan women (Reece, 2007). Early onset depression may be explained by the debilitating characteristic of HIV onset or, as discussed earlier, the developmental timing of the prognosis.

Furthermore, anxiety disorder has been found to affect between 19 and 37 percent of HIV-infected persons in the sub-Sahara, while substance and alcohol abuse plagues between seven and 16 percent of people in the same region. Research has shown that sub-Saharan adults, especially young adults, are more likely to take part in unsafe sex when under the influence of drugs or alcohol than when sober (Page & Hall, 2009). Effective condom use and consent also fall into peril when judgment is skewed by alcohol consumption. This creates an environment

where people who are frequently abusing illicit or harmful substances are putting themselves at a higher risk for contracting HIV. Additionally, approximately 12.4 percent of injecting drug users are HIV positive, placing them in a similarly high risk group (Barton-Knott, 2009). It appears that various mental illnesses and associated behaviors have a role in the probability of contracting HIV/AIDS as well as a role in the level of resilience for those who have it.

People diagnosed with HIV/AIDS often show signs of posttraumatic stress disorder as well. Whether it is preexisting from the widespread violence in the region or due to the virus's onset and associated stigma, nearly 27 percent of HIV positive persons are said to be suffering from a form of PTSD due to HIV and associated stigmatization (Adewuya et al., 2009). The immediate impairment from work and social activities increases a person's chances of developing PTSD due to the sudden stress of a changing lifestyle; furthermore, PTSD is the best predictor of depression (Olley, 2006). Additionally, individuals whose families suffer from PTSD may find themselves increasingly isolated as family members are unable to handle the increasing trauma. PTSD also affects the resilience of persons living with HIV/AIDS. They may find themselves less likely to be involved in long term therapies as it requires constant status updates and cognitive reminders of their terminal illness. Overall, PTSD onset is a reaction to stigma associated with HIV/AIDS and hinders therapy attendance, further linking mental health to HIV/AIDS (Adewuya et al., 2009).

In summary, HIV/AIDS positive persons report a poorer quality of life no matter if physical health is improving (Brandt, 2009). This means that addressing the AIDS epidemic requires addressing the mental health concerns and insufficiencies of the sub-Saharan region. Moreover, due to advances in HIV/AIDS therapies, infected persons are living longer. Thus, there are more PLWHA today than ever before (Barton-Knott, 2009). As the sub-Sahara

continues see a rise in the life longevity of diagnosed individuals, policy and treatment implementation must address both the physical and mental health aspects of well-being quickly. Not addressing one, means setting intervention in the other up for failure. The two way interaction where HIV diagnosis leads to a demise of mental health and the prevalence of mental illness leads to an increase in risk behavior for contracting HIV, means understanding the interaction between mental health and HIV/AIDS will determine the success in prolonging healthy life for the largest population of infected persons in the world

### **Consequences of Mental Health and HIV/AIDS**

In 2009, around 1.3 million Africans in the sub-Sahara died from AIDS and an additionally 1.8 million more became infected with the virus in the same year. This means there is an increasing number in people living with HIV/AIDS. While longitudinally this is promising progress for human life expectancy, at the same time, this inequality exacerbates mental health concerns since this means more people living with HIV/AIDS and mental illness are staying alive longer (as cited in AVERT: AVERTing HIV and AIDS, 2011a). Thus, while the epidemic's outcome in human life is staggering, that is not the only consequences of the virus.

The physical, social, economic, and public health consequences are both compounded by, as well as contribute to, mental illness within the population due to the increasing population. Consequently, negative outcomes are linked to HIV/AIDS and development of mental illness in the sub-Sahara; many of these costs concern not just the maintenance of life, but the enhancement of it as well. These costs include negative outcomes in parent capability and child outcomes, work productivity and economic development, as well as public health.

### **Life Expectancy and Morbidity**

There exists a clear relationship between mental health and HIV/AIDS in both perceived and actual life expectancy of PLWHA. Longitudinally, since the HIV/AIDS epidemic began, more than 15 million people have died from the infection (as cited in AVERT: AVERTing HIV and AIDS, 2011a). Average life expectancy in the sub-Sahara is currently 52 years, which is over 20 years less than developed nations. Additionally, in five countries of this region, life expectancy is lower than that of the 1970s as a direct effect of HIV/AIDS (as cited in AVERT: AVERTing HIV and AIDS, 2011a). However, with the use of antiretroviral drugs, life expectancy is increasing, creating a host of new mental health issues (Barton-Knott, 2009). This means that not only are there more people alive with HIV and mental health issues because of advanced treatment, but that the elderly population is growing. The coupling of treatments necessary to treat mental health and AIDS is exacerbated by the senility accompanying old age. Since mental health issues are already of small priority to most sub-Saharan countries, understanding them in a new age group of individuals age sixty and older will require additional efforts in understanding.

Mental health's association with AIDS also changes life expectancy. Depression associated with HIV/AIDS has been connected with faster disease progression and mortality (Antelman, Kaaya, Wei, Mbwambo, Msamanga, & Fawzi, 2007). Research has also found that the virus changes individual's brain structure putting diagnosed individuals at higher susceptibility for psychiatric abnormalities (National Mental Health and Education Center, 1998). Brain disease occurs syndromally and causes distinct functional and structural changes in the brain (Treisman, Angelino, & Hutton, 2001). Nearly three fourths of autopsies performed on HIV/AIDS positive people reveal brain abnormalities (Stern, Perkins, & Evans, 2000). The

most common of these are AIDS Dementia Complex (ADC) and tumors. ADC particularly, has been known to lead to “global cognitive impairment” within only three months of onset (Whiteside, 2002). Additionally, alcoholism and drug usage, as discussed previously, also alter brain functioning both temporarily and permanently. Since contracting HIV/AIDS is associated with abuse of these substances, there is an additional personal health cost (which in turn creates a cost in parenting capability as discussed next) added to the debilitating effects of AIDS.

Consequently, understanding and identifying mental health concerns is primary to prolonging the lives of infected persons.

### **Parenting Capability and Child Outcomes (AIDS Orphans)**

#### Parenting Capabilities

Negative family outcomes due to HIV/AIDS are both a result and indicator of future mental health issues. First parenting abilities plummet in populations of mentally ill. Starting in pregnancy, HIV positive mothers in the sub-Sahara experience more CMD (common mental disorder) symptoms than their non-pregnant counterparts. In Tanzania, research showed that as many as 57 percent of expecting mothers experienced depressive symptoms (Antelman et al., 2007). Unsurprisingly, these same mothers show increased rates (54 percent) of Post Natal Depression (PND), putting severe limitations on early parenting abilities (Chibanda et al., 2010). PND mothers consequently disservice their children as their symptoms inhibit creation of secure mother-child attachment as well as delays and problems in behavioral, cognitive, and emotional development-- all of which are important psychosocial indicators for success in adulthood of these children (Murray & Cooper, 1997). This means that HIV/AIDS positive mothers in the sub-Sahara, who are inherently putting their babies at risk to receive the infection through

transmission, are also transmitting mental health and developmental delays through inadequate parenting.

Additionally, research has assessed mother's ability to parent later in the child's development. A study involving mothers of six to twelve year old children found that maternal stress negatively affects a gamut of parenting skills. Mother's who are anxious about their own health because of HIV, are more stressed about their parenting role and are less able to create and adhere to family routines (eating meals together or bedtime routines), discipline their children consistently, or communicate effectively (Murphy, Marelich, Armistead, Herbeck, & Payne, 2010). All of these things decrease a parent's efficacy to promote healthy outcomes in their children.

Finally, it must be considered that, in general, a disabled parent is better than an absent one. Due to the imminent death associated with HIV/AIDS, parents disservice their children the greatest when they are unable to care for them because they are no longer alive. The loss of a parent, among other things, has exceptionally negative outcomes as will be discussed in the next section.

### Child Outcomes

Since the beginning of the epidemic, more than 14.8 million children in the sub-Sahara have lost one or more parent to the deadly virus. This has created what is called a generation of AIDS orphans. These are children taken in by extended family members or left as heads of household. Many of these orphans also suffer from HIV/AIDS themselves-- nine out of ten HIV/AIDS infected children live in the sub-Sahara (as cited in AVERT: AVERTing HIV and AIDS, 2011c). Furthermore, mental health plays a large role in exacerbating the effects of AIDS on these children in two distinct ways. First, as described earlier, parent's mental health and

AIDS status interplay to delay the development of the child. Secondly, parents with AIDS, both dead and alive, have profound effects on children's mental health.

One specific example relates to child educational outcomes. Research has found children in the sub-Sahara living with parents suffering from the HIV/AIDS infection have added responsibilities at home creating barriers for them to succeed in the educational system. First, having an HIV/AIDS infected parent almost doubles the chances that a child is not even enrolled in school. Children of HIV/AIDS infected parents have added responsibilities around the house performing daily domestic duties (cooking and cleaning) and medical care on their ailing superiors. This leaves them with little time to pursue school work. Most importantly, these children report higher degrees of anxiety and distress because of the feelings of responsibility towards their ailing relatives. These children described feelings of guilt and apprehension about leaving family members without appropriate supervision during the day. Consequently, these children were unable to concentrate in school, dissipating the educational benefits of attending (IRIN, 2010).

The relationship of HIV, mental health and its effects on the family are profound. The presence of mental illness further debilitates infected parents in the sub-Sahara giving children fewer working models for successful adulthood and cognitively debilitating children from achieving their potential. The sub-Sahara's global ignorance towards mental health's importance has created a vicious cycle for families attempting to survive and thrive despite the trauma of the most prevalent health concern in their region.

### **Impacts on Economic Development**

The economic impact of HIV/AIDS is seen not only in private loss, but in the public inhibition of development as well. Economist Rene Bonnel approximates that AIDS stunted the sub-Saharan economy by .8 percent every year in the 1990s and that its impact is growing (Whiteside, 2002). Additionally, the age population most affected by HIV makes up the bulk of the economic work force. Adults who are ages 15 to 49 are in their most economically productive years thus making their absence from the work force all the more disabling to the developing economies of the sub-Sahara. Employers in the region estimate that absenteeism, productivity declines, and health care expenses as a result of HIV/AIDS swallow nearly six to eight percent of profit. In some of the most heavily infect regions, as many as forty percent of companies report these profit losses (as cited in AVERT: AVERTing HIV and AIDS, 2011b). The attack on this middle age population also effectively eliminates a large mass of people who could be responding to the crisis. This makes subsequent relief efforts move all the more slowly.

HIV/AIDS diagnosis also affects personal family budgeting. The present concordance of HIV/AIDS and mental illness in a family member means that money must be reallocated for daily amenities. First, if an adult is diagnosed with the virus, family income almost instantly declines from the changes in work habits and thus salary of the adult. Additionally, a study in Tanzania found that spending on non-food household items declines by nearly 33 percent as money is redistributed to health care needs (Whiteside, 2002). Consequently local communities hit hard by AIDS, suffer economically from stingy consumers attempting to live on tight budgets and pouring money into pharmaceuticals produced by western companies. When mental health concerns are present in addition to a positive prognosis (which, as shown, is a very common occurrence), health care costs rise to even higher levels, further limiting a family's ability to help

support the local economy. Additionally, anxiety levels are likely linked to access to money, which is in turn linked to speed of disease progression.

Economic costs of HIV/AIDS have been blamed for the slowing of development in many of the sub-Saharan third world countries it inflicts. Without a strong and consistent work force, it is no surprise, economic and industrial advances are handicap. While mental health has in most cases been neglected from this research, it is self evident that its effects only heighten the issue at hand.

### **Public Health Costs**

Due to intensity of treatment necessary to effectively treat HIV/AIDS as well as its growing prevalence, the epidemic has put an extreme strain on the sub-Saharan health care system as a whole, disabling public providers from treating more common diseases and infections effectively. Health costs must be considered from a viewpoint of both private health deterioration as well as increased public health burdens.

Publicly the increased burdens on the systems made to deal with public health are unable to provide basic care in the presence of the overwhelming treatment necessary for the increasing number of AIDS patients. In the sub-Sahara, AIDS patients currently occupy over half of all hospital beds (as cited in AVERT: AVERTing HIV and AIDS, 2011b) and that these patients, on average, occupy those beds for four times as long as normal patients (Palitza, 2006, May 28). Consequently, poorer countries have had to place limits on hospital admittance creating influxes of only severely ill patients who are unlikely to recover. Those PLWHA who are most responsive to treatment because their disease has yet to progress, are hence denied preventative care. Additionally highly qualified public health workers have fled the already under supported

sub-Saharan region due to the excessive workloads and low wages. This is known as “Brain Drain” (Labonte et al., 2006). Furthermore, with the development of ART (antiretroviral therapy), existing AIDS workers have been stretched even thinner due to the time consuming procedure that accompanies every ART treatment (as cited in AVERT: AVERTing HIV and AIDS, 2011b). This suggests that considering the interaction of mental health and AIDS, some of the health investments diverted to ART might be better invested in mental healthcare. This will be discussed subsequently.

Clearly the outcomes of AIDS and mental health reach far beyond death in their inhibition of normal social functioning for all who are affected by the ill person. It is with this holistic perspective focused on increasing social functioning and capability as well as addressing physical symptoms that treatment and intervention is considered.

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### Intervention

Despite growing treatment availability, UNAIDS estimates that the global epidemic is still outpacing the universal response (UNAIDS, 2004). This is exacerbated in the sub-Sahara due to the tandem of rampant untreated mental illness and HIV/AIDS. Effective treatment must consider treatment strategies addressing both issues simultaneously. Without this dual approach, neither treatment will effectively improve the functioning of 23 million people in the sub-Sahara.

### **Antiretroviral Therapy**

As referenced above, the availability and usage of antiretroviral therapy (ART) has greatly increased for the sub-Sahara in recent years. From 2003 to 2008 the regional percent of

treated individuals increased from two percent to 44 percent. ART has become popular because of its ability to drastically slow down the immuno-deficient effects of HIV. ART is considered the most effective treatment for HIV/AIDS. Research looking at mental health effects of ART shows that mentally ill people who adhere to a strict ARV (antiretroviral) regimen display increased mental well being. People using ART as opposed to those not yet on treatment showed increased work productivity, decreased absenteeism, and improved daily functioning. These developments increased within the first three months of treatment and leveled off following that time (Beard, Feely, & Rosen, 2009). Additionally, one article found that individuals adhering to an ARV regimen were less likely to spread the virus to other uninfected persons (IRIN, 2011). Thus it is important to note that using ART vigorously addresses mental health concerns and the social outcomes associated with the interaction of the two illnesses.

However, maintaining the regimen of antiretroviral therapy is exceptionally difficult. Most ARV regimens consist of three highly reactive drugs that attack different parts of the HIV disallowing it from entering new blood cells. This is known as highly active retroviral therapy (HAART) (Global Health Reporting.org, 2011). These treatments must be taken daily otherwise resistance can be built up. Research has shown that negative coping ability and levels of depression are associated with poor adherence to drug treatments (Singh et al., 1999). Other research not strictly related to HIV/AIDS and ART also shows that only half of depressed subjects with poor support are able to adhere to a strict drug regimen compared non-depressed and well-supported people (Gordillo, del Amo, Soriano, & Ganzalez-Lahoz, 1999). This means pre-existing mental health deficiencies further disable HIV positive persons from effectively holding fast to treatment. Additionally, strict adherence for ART is necessary since the virus progresses significantly faster when adherence was inconsistent (Singh et al., 1999). This is

because incorrect usage of combination drugs leads to a buildup of resistance in an infected person's body. Therefore lapses in adherence have significant long term effects in the success of ART (Chesney, Ickovics, Hecht, Sikipa, & Rabkin, 1999). Upon the commencement of therapy, lifetime commitment is required by HIV/AIDS infected people to avoid the development of resistance strands to a variety of medication that remain throughout life and can be passed on to offspring. Consequently, mental illness's negative interplay with treatment adherence plays a significant role in the outcomes of social functioning and life expectancy of HIV positive persons.

Furthermore physical treatment for this epidemic must be two-fold. ART must be made available to all sub-Saharan Africans, not just 44 percent. It is unfair to withhold life saving treatment from the population most in need. However, ART will only be effective if treatment is completed in tandem with counseling and mental health services. Antiretroviral therapy is a high risk- high reward commitment that is highly influenced by mental health capability. If done correctly, ART provides relief from the terminality of AIDS, but if performed inconsistently it only proves to speed up the progression of the virus. This constancy is highly associated with mental illness which has already been described as highly prevalent amongst this population. This means in order to efficiently administer the expensive and time consuming HAARTs (highly active antiretroviral therapy), mental health counseling must be provided as well. It is irresponsible to attempt to treat physical impediments when mental capacities will eventually undermine physical benefits. Personal treatment must start with the availability of antiretroviral therapy and mental health services in tandem for HIV/AIDS positive persons. Since health is a combination of functioning and vitality, treatments need be concerned not only with sustaining life, but maintaining normal functioning despite diagnostic setbacks.

## **Cultural Education**

Public health intervention and treatment in the sub-Sahara extends far beyond the health sector. As Norman Daniels notes, and many other scholars in public health would agree, appropriate treatment and intervention must strike at deep seeded misunderstandings and seek cultural changes in order to enable healing of sick persons (Daniels, 2008).

Cultural beliefs play an exceptionally large role in a society's treatment of HIV/AIDS and mental health. The stigma associated with mental health as well as HIV contraction stems from an ignorance of medical diagnoses as well as historical understandings and healing practices that have cultural influences. Gender discrimination and historical stigma all play an important role in perpetuating the cycle of AIDS and are therefore where education must

interfere to change the culture and make treatment and disclosure more acceptable and realistic options for those suffering. Thematic of this paper, the cultural disparagement of mental illness as well as HIV diagnosis must be treated in tandem to yield efficient and stable results.

## Gender

Discriminatory rights resulting from gender inequality is a rampant issue in the sub-Saharan region. Women are continually acknowledged second to men and find themselves at an increased susceptibility for contracting HIV/AIDS because of this. As previously cited, the number of infected women exceeds that of men by nearly two percent (Barton-Knott, 2009). In a culture plagued with early pre-arranged marriage and myths regarding sexual practices with virgins, the sub-Sahara has cultural beliefs and practices which further the increased susceptibility of women.

One reason for this gender difference is that women are biologically more susceptible to contracting AIDS. This is because a greater proportion of female genitalia is permeable to infected fluids during unprotected sex (Murphy, 2003). However cultural influences are responsible for exacerbating this difference within the sub-Sahara. A study conducted in Kenya revealed 32 percent of girls age 15 to 19 did not realize an outwardly healthy looking person could carry the virus (UNAIDS/United Nations Children's Fund [UNICEF], 1999), and 32 percent were unable to name one tactic for engaging in safe sex (Hunter & Williamson, 2000). Additionally, women are being encouraged to engage in earlier marriages due to the increase in family size because of the influx of AIDS orphans. This means that younger women are engaging in sex with older, more experienced, men who have likely had multiple partners and exercise control over choices regarding condom use due to cultural standards (UNICEF, 2002).

Women also experience greater psychological turmoil such as guilt and blame when they pass their disease on to their children (Collymore, 2004).

Consequently, educational treatment must in part be aimed specifically at women. Because of the increased risk due to the biological association of HIV/AIDS contraction as well as the cultural gender discrimination, women are left uneducated and over-exposed. Educational efforts to improve female social capability, safe sex practices, and stopping male dominance in intercourse partner selection would not only decrease contraction of the HIV virus for women, but empower them with knowledge to improve their general social functioning and psychological well-being.

### Stigma

Concerns about the consequences and stigma associated with disclosure are associated with psychological maladjustment in HIV diagnosed persons in the sub-Sahara (Green & Smith,

2004). Not only do parents fear personal rejection, they also worry about the stigmatization of their children by community members and other extended family members (DeMatteo, Wells, Goldie, King, 2002). However, complete non-disclosure is associated with poor psychological outcomes since these people are the least likely to seek out social support or psychological counseling leading them to social isolation (Bos, Schaalma, Pryor, 2008). Stigma and shame from rape also prevent ready access to post-exposure prophylaxis (similar to the morning after pill, only for AIDS). The transmission of AIDS occurs twice as commonly through rape as through mother-to-child infection (Smith, 2004).

Misunderstanding of the scientific and anatomical cause and spread of AIDS explain the root of stigmatization in the sub-Sahara. A study of three African countries, Ethiopia, Tanzania, and Zambia, found many people still fear they will contract AIDS from casual contact (“Addressing HIV”, 2002). Another study of Zambia and Burkina Faso found large populations attributing infection to sorcery and witchcraft (Horizons, International HIV/AIDS Alliance, 2003). Thus persons living with AIDS in the sub-Sahara are treated unfairly and ignorantly due historical misunderstandings of the infection.

Additionally, legitimacy and understanding of mental illness still trails behind that of the developed world. Traditional healers are more often sought for preliminary consultations concerning mental illness before professional help, and medication usage is not culturally popular (Okasha, 2002). This means that it is culturally taboo to seek the help of mental health workers in some sub-Saharan countries where stigma and misunderstanding drives people to traditional healers.

Fighting negative and inaccurate stigmas of both HIV/AIDS and mental health means fighting a “double stigma.” Also, since stigmatization occurs at a very personal and

individualized level, accessing individual needs is very difficult. Efforts should start with increased public health education and awareness of biological understanding of HIV/AIDS and its contraction. Research shows psychological theory should be used in designing these educational programs in developing countries. However, attention to country specific cultural stigmas is the most important aspect of an intervention plan (Bos et al., 2008). This means involving program developers, stigma researchers, persons living with HIV/AIDS, and other relevant parties in the decision making process for a specific country or region (Bartholomew, Parcel, Kok, & Gottlieb, 2006). Programs should work to provide a detailed understanding of all aspects of AIDS, acknowledge stigmas, and empower PLWHA to counteract them, and create a safe environment to discuss culturally taboo topics (Bos et al., 2008).

A second powerful intervention is promoting self-disclosure PLWHA. When individuals disclose, they are less likely to keep engaging in unprotected sexual activity and more likely to begin seeking social supports (Bos et al., 2008). These practices are the beginning to the end of the spreading of the epidemic. However, self-disclosure in the absence of psychological support is detrimental (Freeman et al., 2007). This means HIV/AIDS and mental health intervention in the sub-Sahara must work in tandem to encourage self disclosure of infection as well as mental health concerns. Without mental health support, HIV positive disclosed persons will find themselves physically ill as well as socially stigmatized. HIV/AIDS and mental health intervention will be most effective in reducing stigmatization and increasing individual social functioning when they are used in conjunction with one another.

## **Poverty**

A culture of poverty has long existed in the sub-Saharan region of Africa. In 2006 it was estimated that over 50 percent of the population lived on less than one dollar a day giving the sub-Saharan the highest rate of extreme poverty in the world (aDollaraDay, 2006). Furthermore, this poverty is compounded by the expensiveness of AIDS and mental health treatment as well as funeral costs. Recent research conducted in the sub-Saharan found that indicators of poverty indicated by rural residence, low socio-economic status, unemployed parents or insufficient attachment to family is associated with unwillingness to be tested for HIV and general ignorance about HIV/AIDS in young people (Fako, 2010). Also previously discussed, poverty decreases children's likelihood of attending school, trapping them in a susceptible environment. From a mental health standpoint, common mental disorders (CMDs) are twice as likely to occur among the poor in developing countries (Araya, de Lima, Mudermir, & Todd, 1999). People who are in debt or hungry are also more likely to suffer from CMDs (Araya et al., 1999). Thus, poverty in the region affects HIV/AIDS and mental illness independently as well as where they are in combination.

Furthermore, addressing poverty in the region will address the interaction of HIV/AIDS and mental health. Intervention could be performed through both monetary redistribution or (more practically) social supports and networks. Two examples of such networks are support groups for AIDS positive persons as well as resource and support for extended family members caring for AIDS orphans.

Professionally run support groups are uncommon in the sub-Saharan considering the scarcity of psychiatric workers. However, Freeman, Nkomo, Kafaar, and Kelly (2008) found that support groups provide a protective factor of comfort for HIV/AIDS persons. Social support and education do not stop the formation of mental illness, but their amelioration of

mitigating effects should not be discounted. It is consequential that free and accessible mental health and social supports for people suffering from HIV/AIDS is to mitigate effects of poverty. Even if infected sub-Saharans cannot afford expensive medical treatments, pro-bono mental health and support services may prove to be a protective factor for increased social functioning. In lieu of unavailable individual professional counseling, support groups address many of mental illnesses most debilitating symptoms.

The sub-Saharan region needs more medical professionals. Unfortunately, most well educated doctors and psychiatrist never return to the country after their schooling. This is known as “Brain Drain” and leaves the area significantly shortchanged in counseling services available to treat the mental illness associated with HIV/AIDS, let only the HIV/AIDS by itself (Labonte et al., 2006). One solution may be better training in mental health treatment and awareness for existing medical professionals in the region. By equipping those primary providers with tools to address mental health concerns, individuals will be treated more holistically. This being said, the region should continue to recruit to the best of its ability qualified medical professionals.

Inevitably, an increase in mental health professionals would increase the prescribing of psychotropic drugs to the general population. While this is not maladaptive, due to issues of cultural acceptance and fiscal feasibility of the poor populace, psychotropic drugs will not be the answer to the African HIV/AIDS epidemic. An influx of trained medical professionals cognizant of mental health and HIV/AIDS’s interaction is the most reliable intervention. Nonetheless, as discussed previously, this massive influx of mental health professionals is not likely, meaning the availability of such drugs inherently limits their prescription.

Second, alleviating the fiscal and emotional burden of AIDS orphans on extended family members breaks into the cycle of HIV/AIDS infection that AIDS orphans find themselves

trapped in. As previously mentioned, these children have lost parents to AIDS and thus live with extended family or on their own. Subsequently, they are less likely to attend school and are highly associated with a variety of risk factors for contracting HIV/ AIDS. Therefore programs aimed at supporting these atypical families reap positive benefits for children. Intervention in this realm takes multiple forms. Counseling for custodial families to deal with the increased emotional and mental health needs of orphans is the foundation for intervention. A 2009 study in Uganda found that custodial parents are most often grandparents who feel economically deprived, physically challenged and emotionally threadbare to adequately care for the children delegated to their supervision (Kamya & Poindexter, 2009). This report suggested increased recreational opportunities for grandchildren, respite care and support groups. Another study in South Africa confirmed these findings in families caring for additional children. They suggested training home-base caregivers in orphan support programs (Hlabyago & Ogunbanjo, 2009).

With more available supports, extended family members may be more likely to take in additional orphans therefore keeping children in families. Being raised by family members is crucial for child outcomes emotionally, mentally and physically. A 2003 study found that the more distant the relative a child was placed with, the lower their survival rate (Bishai et al., 2003). Additionally, living with a non-relative decreases the likelihood of an orphan child attending school (IRIN, 2010 November 10.). Getting these children into school and providing peer support groups are ways in which poverty plays a lessened role in psychological distress and HIV/AIDS infection. A movement to alleviate the strain of poverty for these children has already begun with the establishment of free primary education. However, in the case of sub-Saharan AIDS orphans, getting kids to stay in school with caregivers that support them appears

to be both the biggest challenge and hope for addressing mental health and AIDS in tandem for future generations.

### **Conclusion**

The interaction of HIV/AIDS and mental health in the sub-Sahara is undeniable. With as many as half of the people living with AIDS in the sub-Sahara dealing with one form of mental illness, the time to encourage collaboration between humanitarian efforts for both is now (Brandt, 2009). A failure to consider the combined consequences of mental health and HIV/AIDS leads to an underestimation of the cost of failures and inefficiency of treating mental health and AIDS separately. Relief efforts for the HIV/AIDS epidemic must focus not only on prolonging the life of these terminally ill people, but even more so, improving their daily social functioning. It is for this reason that mental health is of the greatest importance to the battle of HIV/AIDS in the sub-Sahara. In a region where stigmatization of persons with HIV/AIDS and cultural misunderstanding of mental illness run more rampant than most anywhere else in the world, physical, economical, and social support must accommodate for both deficiencies. Without a collaborative effort, neither relief campaign will succeed and the public health of the sub-Saharan region will become further victim to its most deadly disease.

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