

*[This document presents UNZA students' perspective on HIV/AIDS, prepared before the start of class.]*

### **Myths concerning HIV/AIDS and ART in Zambia**

“myths are stories that are passed across generation border from ancient times to the current generation...they can also be defined as stories that are not factual and true, but that hold a common place in society.”

“According to the interviewee, people know a lot about HIV/AIDS. The media in Zambia is filled with knowledge concerning HIV /AIDS. ART has become quite popular now, in that many people know about ART and that a lot of people have been put in treatment and responded positively. People know a lot about AIDS, and the people that seem to not know have just decided to ignore the messages and acted as though they were ignorant.”

The interviewee described what could be termed “enough known about HIV/AIDS and ART” as the following:

- Everyone ought methods of transmission
- Everyone ought to know that there are ARV's and that they can improve the lives of those recommended to take them.

The interviewer said that almost the whole population knew enough about HIV/AIDS and that a good part of the population knew about ART. Even small boys and girls now know how HIV/AIDS is transmitted and how it wouldn't be transmitted.

Myths, as outlined by the interviewee:

- When one loses their marriage partner, they have to undergo sexual cleansing [if female, this is having intercourse with the husband's brother], failure to which they would run mad or see ghosts in the nights and have strange dreams.
- Going to bed with a virgin cures AIDS
- Can't use condoms because they reduce sexual satisfaction
- HIV/AIDS positive people are bad (promiscuous and unethical)

“Myths, misconceptions and culture cannot be separated. Together, they have affected the fight against HIV/AIDS and the administration of ART. [They have caused many people to be infected with HIV. The stigma and discrimination that results] has reduced care for those that are positive. Due to myths, people can't even go for VCT.

“The university student is the future leader and so is urged to lead by example and live right. Abstinence is the best solution. Students must talk to their friends and relations about HIV/AIDS and ART and should avoid delinquent behavior such as drunkenness and drugs as this erodes good morals and robs the youth of his/her self-control.

### **Education and communication on HIV/AIDS**

“[In Zambia, to access AIDS medicines], one has to undergo voluntary counseling and testing (VCT), in order to confirm one's eligibility. After counseling and testing positive to the HIV virus, a person can be eligible to access anti-retroviral therapy (ARV), which, if properly adhered to, can prolong one's life.”

“A lot of people are still ill-informed about HIV/AIDS, ART and VCT. At the moment, there is no national communication strategy on HIV/AIDS/ART/VCT to generate information, especially for the marginalized peri-urban and rural areas (HIV/AIDS news, August, 2004). Correct dissemination of information about HIV/AIDS, VCT and ART is the first and most important step in the fight against the spread of HIV and, above all, in community access to ART.”

“People can only access ART when education about VCT and ART is sufficient. The information, if adequate, would also bring about positive sexual behavior change among the people, as well as other behavior that could mitigate the spread of HIV/AIDS.”

“This research, however, will focus on the following: Modes of communication, effectiveness of these modes in the dissemination of information in the community, how effectiveness is being measured, government and NGO participation in VCT / ART education, how information is administered to illiterate people in rural areas, what is done to persuade those who resist counseling and testing, and information fatigue, especially in urban areas.”

#### 1. Methods of communicating information on HIV/AIDS , VCT, and ART

There are several modes of communication of information in the communities. Information disbursement depends on the size of the community and the level of education of people living in it. The different modes of communication are:

##### (a) Television and radio

The Zambian Government has a policy in place that allows NGOs and government wings that disseminate information on HIV/AIDS, VCT, and ART broadcast education programs at a reduced rate and often for free of charge. This method is mostly for urban areas that are serviced by state and private media. The media in Zambia is centered in urban areas and service only those areas.

##### (b) Counseling centers set-up by the Zambian Government and NGOs

Counseling centers have information desks where people can access information about HIV/AIDS, VCT, and ART in the form of brochures, newsletters, and other publications on the subject matter. Counseling centers also educate people about the dangers of stigma of HIV/AIDS people.

Counseling centers also have peer educators who go for outreach to educate people in the communities about the subject matter. These peer educators form support groups in different communities to allow easier access to information about HIV/AIDS, VCT, and ART by the communities.

Counseling centers are equipped with trained counselors who counsel people on HIV/AIDS

##### (c) Education using drama and other entertainment

This lures people to watch and enjoy themselves and at the end of it all receive information relating to HIV/AIDS, VCT, and ART. This has a potential of attracting a lot of people and reduces information fatigue as this takes up different forms and dimensions. Drama, debates, and other entertainment mostly is done in the local languages and is easier to disseminate to most parts of the country hence its advantage. Most rural and peri-urban people are either semi-illiterate or illiterate hence the need to use education through drama and discussions. This is combined with sensitization through peer education and support groups have proven to be most effective.

#### 2. Government participation in education

Government through the state media gives free air space to VCT centers and the Society of Family Health to air education programs concerning HIV/AIDS, VCT, and ART. The government also funds to a greater extent education on HIV/AIDS through sponsoring VCT centers and education through state media. All schools in Zambia have sex education in their curricula.

#### 3. Sources of funding for education on HIV/AIDS

The Zambian government and more often donors such as USAID and UN organizations are the major financiers of education on HIV/AIDS. NGOs get funding for education from these places.

#### 4. Policy to train peer educators differently

This is done so as to target different age groups. Most NGOs involved in education on HIV/AIDS train educators differently. This is to equip them to confront different people differently.

### *Challenges in education*

1. Funding: This is the central point in education on HIV/AIDS and this is not enough in Zambia, hence the need to come-up with policies that will favor free education on HIV/AIDS. This can be achieved by government participation as well as NGOs.

2. Presentation: Having a dynamic system of education will help remove the information fatigue posed especially by communication modes such as some advertisements, billboards, and brochures.

3. Culturally appropriate: Creation of modes of communication that do not conflict with African Culture especially where sex education is concerned.

### **Drug acquisition and availability in Zambia**

Q: From which countries is Zambia getting the ARV's?

A: Acquiring the same drugs (in terms of biochemical composition) is possible especially if these drugs are obtained from Europe or USA. The Zambian government is obtaining ARVs from the USA as well as Indian generics. Within Africa, the countries producing ARV's include South Africa and Kenya.

Q: Which other countries are producing ARV's?

A: Many of the ARV's are not covered by patents in all countries. As a result, a number of generic manufacturers in countries such as Argentina, India, Mexico, Republic of Korea, Spain and Thailand are producing these drugs and exporting to other countries; however, some generic manufacturers, including many private Brazilian manufacturers, only supply their national market and do not yet have capacity to export these products.

Due to past experience of low drug efficacy from various medications obtained from India, this is one country considered to produce substandard drugs. [This is in conflict with information obtained from another source, which state that the Zambian government obtains their ARVs as Indian generics, while PEPFAR-funded projects such as CARE International and Catholic Relief Services are required to purchase US-manufactured drugs].

Q: Can you get the same drugs from different sources?

A: Drug production, regardless of where the drug is being manufactured, should ensure that the chemical composition confers maximum efficacy, i.e. the largest effect that the drug can produce [without harmful side effects]. Thus, all manufacturing companies have to use the same measurement of ingredients for production of the drugs, thus it's composition determines what a drug is capable of doing.

### **VCT at the University of Zambia clinic**

1. HIV antibody blood tests (HIV is diagnosed using different methods)

Because this is based on product of antibodies, it can't detect the virus in the following cases:

- a. Up to about 6 months of infection
- b. Up to about 15 months in infected infants
- c. In persons with liver and kidney failure
- d. HIV infants born from infected mothers would test positive. This is because of the transfer of maternal antibodies to the offspring of infected mothers even when the child is not infected.

2. Immune Test

3. PAP Smear

This in essence is a test for cervical cancer. It is related to HIV because of the close relationship between HIV and cervical cancer in women.

4. Polymerase Chain Reaction (PCR)
5. Culture Techniques

In Zambia, the commonest method is the HIV antibody blood test. The general principle is that the antigens have an indicator which shows as color change or coagulate when in contact with HIV antibodies. This test comes as a test in strips. The strips differ brand names according to manufacturers. The two steps for the initial test and confirmatory test differ in make [antigen] but are similar in principle. But strips have a sensitivity of 99.9%

Procedure:

When an individual goes for an HIV test, they talk to the counselor. The counselor will then draw blood into a tube and put a label which has a date and test number. Labeled tubes are packaged and taken to the lab where the tests are carried out. The test can also be done while the owner is watching. It all depends on consent. The results from the lab are handed back to the counselor who then informs the client. Orphanages once in awhile bring in blood samples for testing. These are labeled according to item codes.

### **ARV compliance and resistance**

#### *Antiretroviral Therapy*

##### A. Compliance

Generally compliance is good

##### B. Causes of Poor Compliance

- a. Lack of adequate knowledge on the part of the patient regarding the importance of adherence to therapy
- b. Discomfort with idea of taking drugs daily for the rest of their lives
- c. Fear to start taking ARVs due to the stories they have heard about the side effects of most of the ARVs (poor health education)
- d. Poor economic status
  - i. Most patients recruited under the GRZ ARVs scheme cannot afford the ZMK 40,000 (approx. USD 8) monthly contribution required to acquire the ARVs
  - ii. Most patients cannot afford the transport requirements to move to and from
  - iii. Lack of dietary knowledge and food value – some patients shy away from taking ARVs due to the stories they have heard that a patient on ARVs requires a very expensive diet
- e. Lack of ample time for the doctor to explain to the patient on the importance of adherence due to the fact that they are understaffed

##### C. Support Programs for Adherence

- a. Decentralization of centers providing ARVs
- b. DOTS (Directly Observed Therapy Strategy), ie allowing a relative or community health worker to observe the patient more closely especially those with TB or HIV
- c. Educating patients on ARVs on the drugs side effects so that they can report to the health center immediately if they notice any side effects
- d. Provision of laboratory services for free or at a minimal cost – ie in conjunction with NGOs, patients feel encouraged if their CD4 count is being monitored
- e. Provision of home based care services

#### *Drug Resistance*

- A. So far there are very few causes of resistance to the current ARV regimen.
- B. Those who are found to be resistant are put on second line regimen (ie protease inhibitors)
- C. Causes of Resistance
  - a. Mostly its due to poor compliance
  - b. Drug side effects forcing withdrawal of treatment

## **General clinical concepts for children with HIV/AIDS**

- Most children develop HIV/AIDS in first 2 years of life, but others may be asymptomatic for years
- Clinically asymptomatic women are the major source of perinatal HIV infection
- Risk of perinatal infection is 13-39%
- Children commenced on ARV therapy based on lab results if CD4+ percentage is less than 15% of [normal/expected]
- Zambian prevention of Mother-to-Child regimes:
  - o Zidovudine 300 mg, twice daily from 34 weeks till delivery. In labor, every 3 hours until delivery
  - o Single dose Nevirapine, 200 mg for mother in labor and at 2 mg per kg body weight of newborn
- ARV treatment for children:
  - o Stavudine + Lamivudine + Nevirapine/Efvens
  - o Zidovudine + Lamivudine + Nevirapine/Efvens

### **WHO staging of HIV/AIDS for children**

#### Clinical Stage I:

- asymptomatic
- generalized lymphadenopathy

#### Clinical Stage II:

- unexplained chronic diarrhea > 30 days in duration
- severe persistent or recurrent candidiasis (oral thrush) outside the neonatal period.
- Weight loss or failure to thrive without other known causes
- Persistent fever > 30 days in duration without other known cause
- Recurrent severe bacterial infections other than septicaemia or meningitis

#### Clinical Stage III:

- AIDS defining opportunistic infections
- Severe failure to thrive without other known cause
- Progressive encephalopathy
- Cancer
- Recurrent septicaemia or meningitis

## **Diagnosis of HIV and ART in Zambia**

The summary below is based on an interview with Dr. Tim Meade, who serves CorpMed and John Hospice. Dr. Meade is currently seeing 500-600 HIV/AIDS patients, both private and charitable cases, and follows the “National Guidelines on Management and Care of Patients with HIV/AIDS” by the 2004 Zambian National AIDS Council (NAC). These recommendations are based on the WHO guidelines for ART in resource poor settings. The guidelines were also used to help answer questions below. Keep in mind that the recommendations do not necessarily reflect what is being implemented or who has access ART, but rather act as guidelines that those who deliver ART should follow. The first country-wide follow-up study on the delivery of ART is supposed to be released this fall. The 2005 goal of the Zambian government to enroll 100,000 people in ART has been reduced to 70,000 and to-date roughly 20,000 people are receiving ART.

What HIV diagnostic tests are performed in Lusaka for adults?

- 2 Rapid diagnostic tests that test different antigens are required for a positive test (1. Abbott Determine, 2. Genie II or Callius for HIV 1/2. If 2. is negative, retest with Bionor if available)
- Viral load (PCR) tests are not routinely performed anywhere
- CD4 count is used along with clinical assessment to determine eligibility for ART

Who provides/distributes/manufactures the diagnostic tests?

- Abbott, Genie, Callius, and Bionor are rapid and inexpensive single use tests (dip sticks).

When are rapid tests and CD4 counts performed? How is the patient informed of the results and followed-up with? How often is a CD4 count monitored?

- Two rapid tests are given when HIV infection is suspected
- The rapid tests give instantaneous results
- Following a double positive result, WHO recommendations for initiating ART are followed for settings with and without access to CD4 counts.
- See Table for patient monitoring after ART initiation

Timing	Clinical	Laboratory	Other
Week two	Coping, Adherence, Complaints, Fear, Side effects, New Illnesses, Physical examination	Hemoglobin and symptom-specific tests; Liver function test	
Monthly for 3 months	Same as above	As above. At 3 mo CD4 checked	
Every 3 months	Same as above	As above	Repeat PAP smear at 6 mo, if normal repeat yearly. Yearly rapid plasma regain.

\*Note: Although NAC provides these recommendations, charity cases typically only follow-up every 6 months.

How are children tested?

- Newborns are given a rapid test to determine the mother's status
- For a child < 18 mo, a viral load test (qualitative PCR at UTH or sent to S. Africa is the only way to determine status, but the facilities are unreliable) is the only true measure of HIV status
- However, 10% of HIV positive newborns are rapid progressors and can be diagnosed at < 12 months based on symptoms and an inability to thrive. Newborns identified as HIV are put on appropriately scale ART
- For children > 18 mo two rapid tests are sufficient to determine status

How is resistance tested for?

- Resistance is typically diagnosed clinically when the ARVs are proving ineffective. If the virus becomes resistant to ARVs, then the best option is to use a potent protease inhibitor. Strict adherence reduces resistance development.

When is ART initiated?

- There is substantial guidance on this depending on a combination or age, CD4 count availability, and staging according to the WHO classification. This method of identification uses a combination of diagnostic and clinical/symptomatic approaches. However, a triple combination of ARVs is recommended in any setting (2 non-nucleoside reverse transcriptase inhibitors and 1 nucleoside reverse transcriptase inhibitor is a typical combination)
- In the case of extrapulmonary TB, ART should be initiated once TB treatment is tolerated by the patient

Who provides the ARVs (government vs. CIDRZ)? How are they distributed/monitored?

- The Zambian Gov. imports generic ARVs from India for their programs (~40,000 kwacha/mo = \$8/mo)
- Private organizations such as CRS and Family Health International operate under PEPFAR grants and thus are required to purchase American-manufactured ARVs at a reduced cost.
- Regardless of the source, all ARVs entering Zambia must pass through the Pharmaceutical Clearing House Medical Stores, a branch of the Ministry of Health.