Academic Alliance for AIDS Care and Prevention in Africa

ATIC News

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# HIV disclosure in adolescents promotes adherence to therapy

**By Sabrina Bakeera-Kitaka**
**Mmed, Paed, ID Fellow (AA)**

THERE are several challenges in caring for HIV-infected adolescents, which need to be addressed by all caregivers. First of all, the numerous Behavioural Change (BC) packages have not targeted children with HIV vertical transmission and many parents/guardians still find it very uncomfortable to tell their children about the infection they have, let alone reveal to them their own sero-status.

This problem has been greatly caused by the stigma the community attaches to HIV infection and the 'guilt' that the parents may have for "causing" the infection in these children.

At the Mulago Paediatrics Infectious Diseases Clinic (PIDC), about 2,500 children with HIV have been registered for care and follow-up. Of these, 250 (10%) are adolescents aged 10 to 19 years.

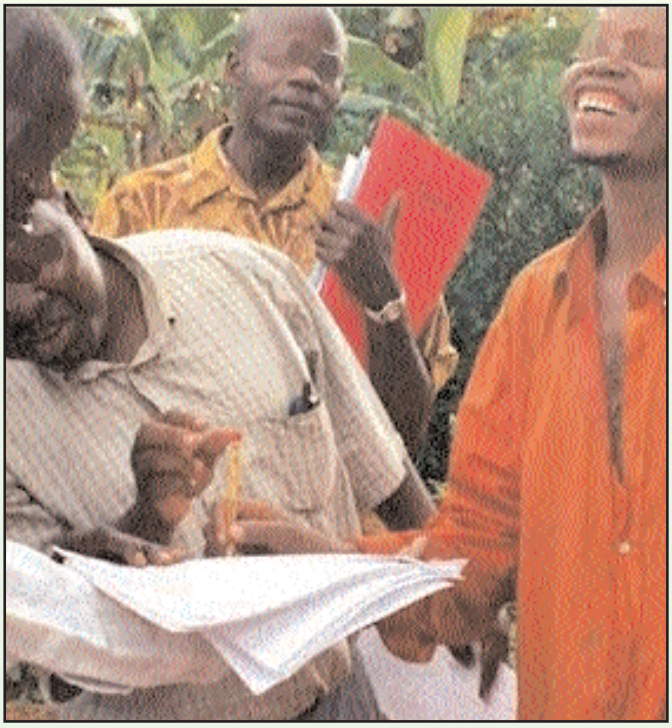
An adolescent clinic (dealing with children 12 to 19 years old) was set up in December 2003 with help from the Academic Alliance for AIDS Care and Prevention in Africa (AAACPA) to give comprehensive care including voluntary counselling and testing.

In 2002, the PIDC started offering free antiretrovirals (ARVs) to children and 250 are getting them free of charge from the clinic.

Families are at a loss when they start getting questions from their children concerning their repeated illnesses, frequent injections (either for treatments or investigations) and symptoms which they often, quite rightly, relate to HIV.

Many of these children are in schools where fellow pupils and adults tease them because of their HIV-related signs and symptoms. Furthermore, while explaining preventive measures, mode of transmission, signs and common HIV symptoms, some teachers seem to be addressing these youngsters. In addition to this, these children have to take several pills daily in order to stay healthy.

It is very challenging for anyone to take several pills every day. Yet we expect these children to take sometimes up to five different pills (vitamins, antibiotics for prophylaxis, anti-itch, analgesic, ARVs), daily, for all their lives. The truth is that once they understand the basis for taking these pills, they are more likely to be cooperative.



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**Ugandan adolescents take time off to share a joke**

## HIGHLIGHTS

- Disclosure should never be rushed and must be done with the help of a counsellor and the attending physician
- Every child is treated as an individual in respect to counselling, testing and disclosure.
- Apart from ARVs there are other medications that need to be taken frequently, so the child needs encouragement.
- The programme incorporates psycho-social, emotional and spiritual care to adolescents with HIV.

### The process of disclosure

Every child is treated as an individual. We realise that some children accept their status better than others; and yet some are more knowledgeable or even more aware than the others.

Generally parents/guardians are encouraged to disclose to the child their sero-status.

Disclosure may take three weeks to one year, and this requires follow-up and patience. It should never be rushed and must be done with the help of a counsellor and the attending physician who serve as a reserve of comfort and knowledge.

### Why Disclose?

Apart from improving adherence with ARVs, there are also other medications that need to be taken frequently, and therefore the child needs

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# From ATIC News

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**ATIC is located on 1st floor Makerere University Institute of Public Health, Mulago Hospital. ATIC acknowledges the support of Roche Pharmaceuticals, Pfizer, Makerere University, Mulago and all its partners.**

## Bangkok tackles access to care

The XV International AIDS conference took place in Bangkok in July. Access to care was the main theme. Now that access to ARVs in low income settings is expanding, there is need for all groups, including clinicians, scientists, community workers and leaders, from all levels, from the field, the public and private sectors, to have access to all resources developed after 20 years of fighting the HIV/AIDS. (http//:www.aids2004.org). The first experiences of scaling up pilot projects to access programmes were shared with participants. It is clear that new financial resources for treatment and prevention programmes bring their own challenges. As ARVs become available, the biggest challenge faced by struggling healthcare systems is a scarcity of trained healthcare professionals. In countries of high prevalence, healthcare systems are overburdened by increasing numbers of sick HIV-infected patients, while the already meagre healthcare worker resources in many developing countries are decimated by HIV/AIDS. High-paying salaries and better working conditions in the private sector continue to attract healthcare workers from the public health sector. So solutions were discussed. Healthcare workers must be motivated to remain within national public healthcare structures by providing better pay and working conditions. Volunteers, for instance, can be recruited to address service delivery gaps. New models for the delivery of HIV healthcare are being developed e.g. the South African national plan relies greatly on nurses in contrast to doctor-led models in Western countries. One controversial strategy is to put healthcare workers at the top of the queue to access national ARV therapy programmes. However this raises equity of access issues. The need to expand training for healthcare workers in the use of ARVs is a priority. Inappropriate use of ARVs can lead to the development of viral resistance resulting in ineffective treatment for the patient and exposure to a multi-drug resistant virus at the population level. There is need to increase the local capacity of undergraduate programmes for medical and paramedical staff. This pandemic requires us to create innovative, far-reaching solutions to the healthcare provider crisis in developing countries, otherwise millions will die and resources will be wasted.

## Adolescents' HIV disclosure is vital

**From page 2**

to be encouraged, even though he/she may appear well. It is expected that these adolescents will grow up to become healthy young adults, like their counterparts in developed countries. Their knowledge of their sero-status, coupled with intense counselling should help them lead a safe and healthy life. A 'safe life' includes safety for others who they may infect, as well as practising abstinence, being faithful to sexual partner(s) and condom use (A, B, C), coined from Uganda's successful prevention and management strategies for HIV.

Girls should postpone becoming pregnant, and all the children should be encouraged to have self-drive and to plan for the future. Many of our patients have career aspirations.

**Goals of the peer support groups**

- Create a suitable atmosphere within which adolescents can meet and discuss issues pertaining to living with HIV, challenges, behavioural issues, grief, orphanage, adherence to drugs, reproductive health and forging ways of dealing with these issues. "I used to think that I was the only one with AIDS but now I know there are others like me," said one girl.
- Group counselling and psycho-social support: There is need to train both counsellors and physicians caring for these young people in adolescent counselling.
- Educate and equip adolescents and parents with life survival skills as many of them are not in school due to stigma and neglect from guardians.
- Reproductive health: These young people are at a stage of sexual awareness and experimentation and so this would be a good forum where sexual issues and further spread of the disease can be dealt with.
- To train these adolescents to be peer-educators and advocates for the other children living with HIV/AIDS irrespective of mode of acquisition of the illness.
- To be a model for other health programmes looking after people, especially children living with HIV.

In summary, our main objective is to incorporate a holistic approach of psycho-social, emotional and spiritual care to the medical care that we provide to adolescents who are HIV infected.

As we care for these adolescents, we always emphasise six important 'Hs' in their lives: Hope for the future; hand of God in their lives; how to deal with happy times and cope with hard ones, their heritage, and last but not least, their health.' (**see related story on page 8**).

**References:**
**1. Nkrumah FK et al, Clinical presentation of symptomatic HIV virus in children Afr J Med 1990 May; 36(5): 116-20.**
**2. Grubman S et al. Older children and adolescents living with perinatally acquired HIV infection. Pediatrics. 1995 May; 95(5): 657-6**
**3. UDHS, Ministry of Health Report, 2001.**

# Focus on Lamivudine

Clinical Pharmacist, **Saul Kidde** discusses lamivudine and its multiple therapeutic usage

Lamivudine, (also known as epivir or 3TC), is an anti-retroviral medicine in the class Nucleoside Reverse Transcriptase Inhibitors (NRTIs). Lamivudine treats Hepatitis B in lower doses than that for HIV. It is used to prevent mother-to-child transmission of HIV and in post exposure prophylaxis in combination with other antiretrovirals.[1].

**Dosage/Administration**:[2]
**Treatment of HIV**:
**Adult**: 150mg twice daily or 300 mg once daily.
**Paediatric**: Infant age <30 days; 2mg/kg twice daily, 1 month to 12 years; 4mg/kg twice daily to a maximum of 150mg twice a day, adolescents weighing < 50 kg; 2mg/kg twice daily and adolescents weighing > 50 kg, adult dose.
**Dosing in renal insufficiency and hepatic impairment**:
Adults with creatinine clearance (ml/min) of >= 50; normal dose, 30 — 49; 150mg once daily, 15 – 29; 150 mg first dose then 100mg once daily, 5 — 14; 150 mg first dose then 50mg once daily, <5; insufficient data but consider150 mg first dose then 25mg once daily.

There are no data available on the use of lamivudine in children with renal impairment. Based on the assumption that creatinine clearance and lamivudine clearance are correlated similarly in children as in adults, it is recommended that the dosage in children with renal impairment be reduced according to their creatinine clearance by the same proportion as in adults.

Data obtained in patients with moderate to severe hepatic impairment shows that lamivudine pharmacokinetics are not significantly affected by hepatic dysfunction. Based on these data, no dose adjustment is necessary in patients with moderate or severe hepatic impairment unless accompanied by renal impairment.

**Treatment of hepatitis B:**
Lamivudine is active against hepatitis B virus, but resistant HBV is observed to emerge over several months in the setting of treatment with lamivudine alone.

Individuals with HIV and hepatitis B receiving HIV therapy including lamivudine may experience an exacerbation of chronic active hepatitis B if lamivudine is discontinued. The dose of lamivudine available specifically for the treatment of hepatitis B is 100mg once daily for adults and 3mg/kg for children aged 2 -17 years to a maximum of 100mg which is substantially lower dose that is not appropriate for treatment of HIV.

**Prevention of mother to child transmission of HIV:**
The PETRA study was a placebo controlled study conducted in Africa in which one arm used lamivudine in combination with zidovudine (AZT) in a regimen that included giving a mother 600mg of oral AZT and 150mg of 3TC at the onset of labour followed by 300mg of AZT every 3 hours and 150mg of 3TC every 12 hours until delivery. Thereafter a seven day regimen of zidovudine and lamivudine was given to the mother every 12 hours and the baby received 4mg/kg of AZT and 2mg/kg of 3TC every 12 hours for the baby.

At 6 weeks postpartum, the rate of transmission was 9% in those receiving 2 drugs versus 15% in the placebo arm.

**Contraindications and precautions:**[3]
Hypersensitivity to lamivudine or to any of the excipients. Lamivudine is not recommended for use as a monotherapy. In patients with moderate to severe renal impairment (Crcl<=50ml/min) the dose should be adjusted (see dosage in renal impairment). Lactic acidosis, usually associated with hepatomegaly and hepatic steatosis, has been reported with the use of nucleoside analogues.

Treatment with nucleoside analogues should be discontinued in the setting of symptomatic hyperlactatemia and metabolic/lactic acidosis, progressive hepatomegaly, or rapidly elevating aminotransferase levels.

**Side effects:**
Lamivudine is generally well tolerated. The common side effects are headache, insomnia, nausea, vomiting, abdominal pain or cramps, diarrhoea, cough, nasal symptoms, rash, alopecia, arthralgia, muscle disorders, fatigue, malaise and fever.

Rare side effects include peripheral neuropathy (or paraesthesiae) and rises in serum amylase.

Cases of pancreatitis have been reported as well as transient rises in liver enzymes (AST, ALT), hepatitis, skin and subcutaneous tissue disorders, rhabdomyolysis.

Lactic acidosis, sometimes fatal, usually associated with severe hepatomegaly and hepatic steatosis has also been reported with the use of nucleoside analogues.

**Monitoring parameters:**
**Toxicity**: Limited data are available on the consequences of ingestion of acute overdoses in humans.

**Interactions:**[4]
The likelihood of metabolic interactions is low due to limited metabolism and plasma protein binding and almost complete renal clearance. Zidovudine has no effect on the pharmacokinetics of lamivudine. The possibility of interactions with other medicinal products administered concurrently should be considered, particularly when the main route of elimination is active renal secretion via the organic cationic transport system, for example, trimethoprim.

**Pregnancy and lactation**:
The safety of lamivudine in human pregnancy has not been established. Reproductive studies in animals have not shown evidence of teratogenicity, and showed no effect on male or female fertility.

**Storage**
It should not be stored above 30°C

**Presentations**
Lamivudine is available as a 150mg tablet, Epivir and in generic form as Lamivir and Okavir (lamivudine 150mg),or in combinations as Triomune 40 (3TC 150mg, D4T 40mg and NVP 200mg), Triomune 30 (3TC 150mg, D4T 30mg and NVP 200mg), Maxivir (Same as Triomune), Combivir (3TC 150mg and AZT 300mg)

**References:**
**1. Martindale, The Complete Drug Reference, 33rd edition**
**2. American Society of Health System Pharmacists, 2004.**
**3.IPHA Compendium, 2004.**
**4.Stockley's Drug Interactions, 6th Edition.**

Cut here

## The commonest pain we see at Hospice Uganda is from cryptococcal meningitis and cancers like kaposi's sarcoma

# Reducing the pain of disease

**By Anne Merriman**

PALLIATIVE care consists of supportive care and pain, as well as symptom control that can be given in any circumstances till death. It is a speciality which embraces a holistic approach and medical expertise. Special training is required for a health professional to be able to deliver this care.

Care without pain and symptom control is support care. Pain control without support care is anaesthesiology.

Modern palliative care commenced in 1967 in the UK by Dame Cicely Saunders, who introduced the science of managing pain and symptom control so that patients could live free of pain and symptoms and in unity with their families and their God, continuing to make decisions, until they died. They were now actually living longer because they could sleep and eat better and the fear of pain was removed.

Before 1967 only support care was available in the UK.

**What is support care?**

Support care consists of meeting the social, spiritual and cultural needs of the patient and family from the time of diagnosis of the disorder. It incorporates voluntary counselling and testing, prevention of mother-to-child transmission, antiretrovirals (ARVs), treatment of opportunistic infections and simple analgesia. It includes prevention, education and encouragement of the patient to live positively with the disease. There is some overlap between support and palliative care, especially where clinics are available through support groups. There are some organisations that take on part of these supports, and others which cover special needs such as women and vulnerable children. All have contributed to a rich diversity of services in Uganda.

**Hospice and support organisations**

It is important to understand the definitions. Some services say they offer palliative care yet it is only support care that they offer. Support care is very important but when pain and symptoms occur, uncontrolled by simple drugs or are beyond the knowledge of health professionals who are not trained in palliative care, then the patient will need more support. Communities need to be aware of this.

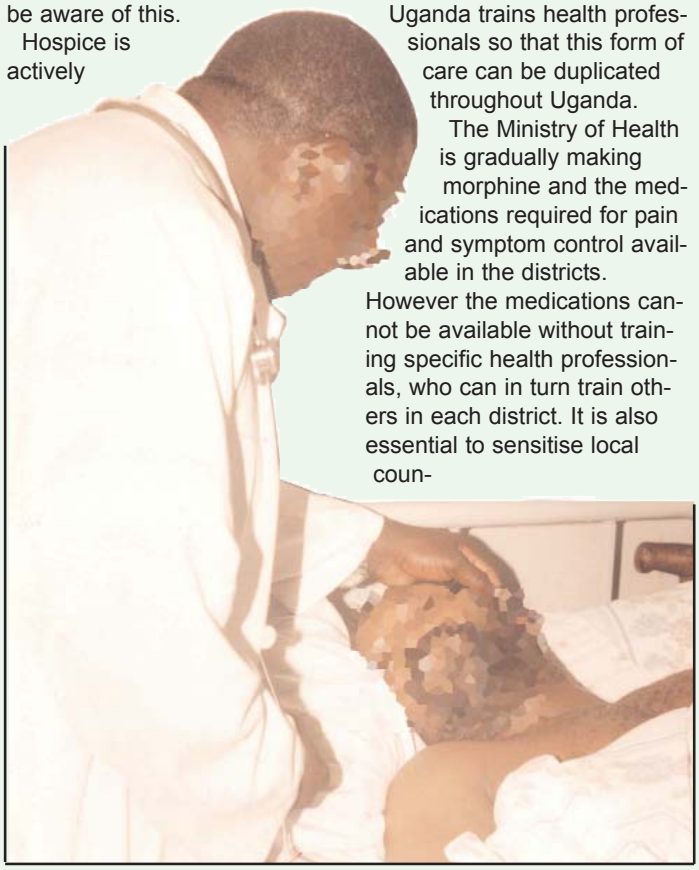
Hospice is actively assisting support care organisations to graft palliative care into their services. These are often grassroot support services in touch with the poorest who need palliative care. If the new knowledge of palliative care is grafted into their service, the support organisation can be considered to be delivering palliative care. Since the needs of the critically ill and dying are so great, there must be a separate team willing to visit the home frequently in order to control pain and symptoms and to support the family during this difficult time.

Kitovu Mobile Home Care in Masaka has successfully set up a support and palliative care model.

Hospice Uganda trains health professionals so that this form of care can be duplicated throughout Uganda.

The Ministry of Health is gradually making morphine and the medications required for pain and symptom control available in the districts. However the medications cannot be available without training specific health professionals, who can in turn train others in each district. It is also essential to sensitise local councillors, narcotic police and all involved with drug surveillance in the district. Fourteen districts have been trained and morphine is available to them through Joint Medical Stores. Nine other districts have been targeted for this year's training.

Drugs are now affordable. Morphine for the average patient to completely control pain for 10 days costs less than half a dollar. This is cheaper than simple aspirin. The Ministry of Health provides it free when health professionals are trained in its use.



AIDS patients have social, spiritual and cultural needs

**HIV/AIDS conditions managed by Hospice**

Any patient with a critical illness or in severe pain will be visited and cared for in his/her home based on his/her condition and needs.

The commonest referrals are for pain and the commonest pain we see at Hospice Uganda is from cryptococcal meningitis and cancers such as kaposi's sarcoma.

We control pain and symptoms completely as well as pain occurring as a result of opportunistic infections. These pains can be treated alongside management of opportunistic infections.

Patients are referred by their healthcare providers for palliative care. Once a patient is pain and symptom free, the referring clinician often resumes primary responsibility for care of the patient.

To date, Hospice Africa - Uganda has looked after more than 6,000 patients over the 11 years since it started. We have 600 patients on our programme in Uganda.

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**QUESTIONS**
*with*
Robinah Nganwa

**Is it permissible to change a patient doing well on efavirenz to nevirapine due to cost issues?**
**S.G Mbarara, Uganda**

The decision to switch successful antiretroviral therapy should be approached carefully and with due consideration to the potential for new side effects or toxicities.

A switch from one NNRTI to another (at least efavirenz and nevirapine) should be safe for persons who are successfully suppressed on either medication. Results of the 2NN study suggest that the two drugs perform comparably among treatment-naive persons. Again, since NNRTI resistance can usually be detected (clinically, so to speak) by a rising viral load, an undetectable HIV viral load should be a very reasonable marker for the lack of resistance to the efavirenz component of your patient's regimen, and provide additional laboratory support for the switch.

Nevirapine induces its own metabolism via the CYP450 system and to compensate for this, initiation of NVP dosing includes 200mg daily for 14 days followed by dose escalation to 200mg twice daily. If treatment with NVP is interrupted for more than 7 days it should be re-introduced with 200mg daily for 14 days.

However because EFV is a CYP450 inducer and thus enhances the metabolism of NVP, NVP may be introduced at 200mg b.d after a switch from EFV leaving out the lead in period of 200mg once daily. This dose is associated with immediate NVP therapeutic plasma drug levels.

## Patients can partner with us in a coordinated plan

# 'Doctor-shopping' for HIV is fatal

**By Charles Steinberg M.D.**

HIV care today takes us way beyond acute episodic interventions to providing coordinated ongoing treatment for a chronic manageable disease. When patients go 'doctor shopping,' they get exactly the opposite of what is needed. Patients receive a series of unconnected "stand alone" encounters by different practitioners at different sites and their care lacks a coherent plan, any consistency, coordination or/and follow up.

When patients are 'doctor shopping,' their care is fraught with dangers. An initial diagnosis may be masked by partial treatment from Doctor #1 and missed entirely by Doctor #2.

Treatments from one practitioner when unknowingly combined with those of another may be antagonistic ( e.g.AZT and D4T), may cause increased overlapping toxicity (e.g. D4T and INH), or may cause drug/drug interactions.

These interactions can raise drug levels to toxic ranges, or lower them to useless ones. And with ARVs, this last danger can quickly spell life-long resistance, treatment failure and patient deterioration.

Picture your patient on Triomune who visits a different practitioner complaining of thrush. He receives the usually effective and readily available Ketoconazole. Triomune's nevirapine component will induce the CYPP450 enzymes and lower the ketoconazole level and your patient's thrush will not improve. Worse yet, the ketoconazole will inhibit the same enzymes and raise

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**ARV drug interactions can spell life-long resistance**

the NVP level and make it potentially toxic to your patient.

One of my patients at *Reach Out* with KS including pulmonary involvement was improving on ARVs (combivir and NVP-chemo was not available) and then went to a different clinic when travelling and complained of her cough. The clinic did a chest X-ray and read it as TB and started her on EHRZ.

The rifampicin induces the metabolism of the nevirapine and lowers it's level up to 2/3rds. The virus in the blink of an eye is resistant to NVP and then the 3TC in the combivir. We have lost two great anti-HIV drugs for this patient from a mis-diagnosis and uncoordinated care!

'Doctor shopping' is a problem for any patient with any illness, but it can be a disaster for those on ARVs. ARV therapy requires long term strategic planning: What is my first line regimen, what is second and what might follow that?

With 'doctor shopping,' irrational drug choices and changes can quickly lead to suboptimal viral suppression and the emergence of resistance. Imagine a chess game against a wise master (the virus, maybe not wise, but one that can make 10 billion moves a day), where at each next turn a new player tried his or her best shot-for one play—and then was gone. We would always lose.

With 'doctor shopping,' besides all of these disasters, there is the obvious waste of resources. Repeated histories, exams, labs and other studies all waste the practitioner's and the patient's time and money. These are precious resources anywhere, but particularly where resources are limited, they should not be wasted.

The key to helping our patients with this issue is prevention with education from the beginning, and by meeting our patients needs.

Patients can easily learn the dangers of lack of continuity of care and mixing treatments. As they learn that with HIV there is no simple quick fix, no magic bullet, they can learn to partner with us in a coordinated plan. Patients go doctor shopping to look for something they are not getting. Are we really listening to our patients? Do we acknowledge the problems which are their concerns? Do they leave satisfied that they have been heard and that they are getting good care? If so, they will be less likely to 'go shopping,' and in the end, they will get better care.

**Reach Out Mbuya**
**Former Trainer, Academic Alliance**

# Doctor's Forum

ATIC News, P. O. Box 40008, Kampala, email: bbitangaro@iph.ac.ug. **ATIC News welcomes readers views**

**Participants at an Academic Alliance meeting early this year, discuss the complexities of HIV**

# Recognising HIV/AIDS signs saves resources

**By Richard Brown**
**MD, MPH, FACP**

IN Kenya, it appears that training in ARV management is progressing well on most fronts. The training, as it should be, concentrates mostly on the care and treatment of HIV-infected out-patients. This is the emphasis of the National AIDS /STD Control Programme ( Ministry of Health, Kenya), and President's Emergency Programme for AIDS Relief (PEPFAR) programmes.

In North America and Western Europe, the great majority of HIV patients now come under treatment before they reach the advanced stages of AIDS.

This situation was not always the case. Early in the epidemic, patients presented for care when they were quite ill and this is the situation we now see in Kenya. At Nazareth Hospital in Kiambu, Kenya, large numbers of our HIV patients are first diagnosed while in-patients with advanced stages of AIDS.

It is our hope that as ARV programmes advance, HIV-infected persons will come at earlier stages of their disease, and that they will be treated as out-patients, avoiding the expense and energies required for in-patient care. In Kenya though, in-patient care is still critical as a major entry point to ARV treatment programmes.

At Nazareth Hospital, we discovered that more than 90% of the AIDS patients requiring in-patient care, are affected by only 12 conditions, and we feel that recognition of these conditions should be an essential part of staff training for in-patient AIDS care.

The most frequently seen conditions are:

1. Cryptococcal meningitis
2. Tuberculosis, (pulmonary and extra-pulmonary)
3. Pneumococcal pneumonia
4. Pneumocystis pneumonia
5. AIDS Dementia Complex (ADC)
6. Distal Sensory Paresthesias (DSP)
7. Focal CNS signs (usually cerebral toxoplasmosis)
8. Oesophageal candidiasis
9. Varicella zoster
10. Fever of unknown origin
11. Persistent or recurrent diarrhoea
12. Weakness / fatigue and emaciation

Healthcare workers should be trained to recognise the signs and symptoms of these conditions and to routinely request for a HIV rapid test when they present.

If these common manifestations of advanced AIDS cannot be managed at the centre where they present, then the patient should be referred to a hospital where staff are trained and equipped to manage these patients appropriately.

For this reason, a cadre of HIV clinicians should be selected and trained to care for and treat these AIDS patients, who are too sick to be handled as out-patients. Such training is difficult in a classroom setting; it ideally should include a clinical attachment to a busy in-patient facility.

**The author is a doctor at**
**Nazareth Hospital**
**Kiambu District, Kenya**

## IN BRIEF

### Sex workers test positive

One in five AIDS cases in India is in Maharashtra. Over half of the commercial sex workers in the state test positive for HIV as do 39 percent of injecting drug users.

### Asia's HIV epidemic rises

Of the 4.8 million new HIV infections worldwide in 2003, Asia accounted for one in every four. Both the global and Asian numbers represent the greatest increases since the epidemic came to light more than 20 years ago, according to the latest estimates by UNAIDS and the World Health Organisation (WHO). Countries in Southeast Asia, including Cambodia and Vietnam, are experiencing particularly serious epidemics.

**Population Reference Bureau**

### Access to ARVs

THE XV International AIDS Conference participants called for equal access to antiretroviral treatment (ART) for HIV-positive mothers and their children at a USAID/WHO panel discussion in July. The panel, entitled 'Mothers and their children in a future with HIV/AIDS: Scaling up PMTCT (Prevention of Mother-To-Child Transmission) Plus,' brought together technical experts, policy makers and AIDS activists from around the world to share their best practices and advocate for increasing PMTCT programmes.

**World Health Organisation**

# ARV therapy in children differs from that for adults

**By Robinah Nganwa**

CHILDREN infected with HIV differ from infected adults in that the disease progresses more rapidly, they have higher viral loads, more frequent recurrent invasive bacterial infections and opportunistic infections (OI) often present as primary diseases with more aggressive course because of lack of prior immunity. [1]

The WHO paediatric staging is as below;

**Stage I**: Asymptomatic, persistent generalised lymphadenopathy.

**Stage II**: Unexplained chronic diarrhoea, severe persistent or recurrent candidiasis outside the neonatal period, weight loss or failure to thrive, persistent fever and recurrent severe bacterial infection.

**Stage III**: AIDS defining OI's, progressive encephalopathy, malignancy, recurrent septicaemia or pneumonia.

Early studies demonstrate that 20% to 30% of HIV-infected infants develop AIDS in the first year of life. Young infants who progress to AIDS or die almost always have symptoms prior to progression. CD4+ cell count or CD4% has the strongest predictive value in disease progression.

It is important to know when to initiate therapy in children so as to slow down the progression to clinical AIDS. The situation for children is more complicated. It takes into account not only whether CD4 testing is available but also the possibilities of demonstrating HIV infection in children, which is not always obvious or easy, as well as the age of the child. Because CD4 cell counts drop with age in children, it is recommended that CD4 cell percentage rather than absolute cell count be used.

If the children are asymptomatic or have symptomatic disease, it is recommended that treatment be started only if CD4 percentage drops below 15%. However in infants, the baseline for treatment is below 20%. The issue with testing antibodies in children is that all babies born to HIV-positive mothers have maternal antibodies in their circulation for 6 to 12 months, so the presence of antibodies is not conclusive of HIV infection. In children over 18 months the presence of antibodies for HIV is conclusive for HIV infection.

Where sophisticated diagnostic tools are not available, in children below 18 months, recommendation is not to treat. The rationale is that many of the clinical symptoms for stage II or III disease are not specific for HIV infection and may overlap with symptoms seen in children. It is therefore advisable to wait till the child is over 18 months and diagnosis for HIV can be made. (**Table A**)

In Uganda the recommended first line ARV regimens for children are:

1. D4T/3TC + NVP or EFV
2. ZDV/3TC + NVP or EFV

EFV should not be used in children under three years or weighing less that 13kg due to lack of proper dosing information.

**TABLE A: Recommendations for Initiating Antiretroviral Therapy Children**

| CD4 Testing | Age | HIV Diagnostic Testing | Treatment Recommendation |
|---|---|---|---|
| If CD4 testing is available | <18 months | Positive HIV virologic test[1] | -- WHO Pediatric Stage III (AIDS), irrespective of CD4 cell percentage[2]<br>-- WHO Pediatric Stage I disease (asymptomatic) or Stage II disease with CD4 percentage <20%[3] |
| | | HIV virologic testing not available but infant HIV seropositive or born to known HIV-infected mother (Note: HIV antibody test must be repeated at age 18 months to obtain definitive diagnosis of HIV infection) | -- WHO Pediatric Stage III disease (AIDS) with CD4 cell percentage <20% |
| | >18 months | HIV antibody seropositive | -- WHO Pediatric Stage III disease (AIDS) irrespective of CD4 cell percentage[2]<br>-- WHO Pediatric Stage I disease (asymptomatic) or Stage II disease with CD4 percentage <15%[3] |
| If CD4 testing is not available | <18 months | Positive HIV virologic test | -- WHO Pediatric Stage III[2] |
| | | HIV virologic testing not available but infant HIV seropositive or born to known HIV-infected mother | -- Treatment not recommended[4] |
| | >18 months | HIV antibody seropositive | -- WHO Pediatric Stage III[2] |

WHO Guidelines

| Immune Category | <12 months CD4 cells/ml | 1-5 years CD4 cells/ml | 6-12 years CD4 cells/ml |
|---|---|---|---|
| **Category 1: Not suppressed** | >1500<br>>25% | >1000<br>>25% | >500<br>>25% |
| **Category 2: Mod suppressed** | 750-1499<br>15-24% | 500-999<br>15-24% | 200-499<br>15-24% |
| **Category 3: Severely suppressed** | <750<br><15% | <500<br><15% | <200<br><15% |

**References;**

**1) Haroon Salojee, Avy Violari. HIV Inf in children. BMJ 2001; 323:670-4.**

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# Support gives adolescents hope

## 'I outgrew bitterness'

I am Brian and I am 13 years old. I was diagnosed with the human immunodeficiency virus (HIV) in 2003.

What I like about the Adolescent Support Group is sharing our experiences as children living with HIV/AIDS.

The support comes from fellow children as well as our facilitators.

As children we are given support and are made to understand that there is hope for children with HIV and we can live a meaningful life.

We appreciate this because some of us were very bitter with our parents when we discovered we had HIV, but thanks to the support group, we have outgrown the bitterness.

Our nice facilitators and counsellors teach us about nature and how our bodies work, something we did not know. They encourage us to read hard for a bright future.

My best time is when they take us out to places like Didi's World and we are always given refreshments and transport to and from home. Right now we are expecting a great Christmas, gifts and an outing.

On behalf of the group I would like to officially thank our wonderful facilitators, counsellors nurses and doctors for supporting us.

## Medicine is important

My name is Godfrey and I am 17 years old. I would like to share my experience as an HIV-positive adolescent. HIV medicines are important because they restore your health, thinking, give you good skin and also increase your appetite. Your white blood cells are also increased to help you fight off infection. These are some of the lessons we have learnt from the adolescent support group in Mulago Hospital and they have helped me lead a healthy life.

**Loss of body** weight can occur if one's diet is bad. Sometimes these drugs have to be taken with a proper diet in order for them to work.

**Bad skin**: This can happen when you are taking drugs so do not be afraid to continue with your drugs.

**Vomiting**: This can be caused by some of the drugs. If it persists your doctor can give you an alternative drug.

**HIV testing** is very important because you get to know if you have the virus that causes AIDS. It has helped me know my status so that I can keep healthy and to also protect my friends and family from HIV infection.

Mothers should take their children for testing for HIV so that they can have good health in future.

## Brazil, UNAIDS join forces against AIDS

THE Government of Brazil and the UNAIDS announced this month a new approach to scale up the response to AIDS in developing countries through multi-lateral agreements between the government of Brazil, UNAIDS and other developing countries. As part of the new joint initiative, UNAIDS will establish an International Centre for Technical Cooperation on AIDS based in Brazil.

"The new initiative will give other countries the necessary tools to effectively fight AIDS, now that financing is greatly increasing. Making this money work is now a priority. We urgently need to identify new ways for countries to build

**UNAIDS head, Peter Piot**

technical capacity to tackle the epidemic, the largest human development crisis in history," said Dr Peter Piot, UNAIDS Executive Director.

**UNAIDS press release**
**August 2004**

## HIV vaccine calls for women's participation

GREATER participation of women and adolescents is needed in HIV vaccine clinical trials, according to a group of international experts, who attended a consultation on HIV vaccine trials in Lausanne, Switzerland in August.

The meeting, organised by the World Health Organisation (WHO) and Joint United Nations Programme on HIV/AIDS (UNAIDS), brought together, for the first time, 40 experts from around the world to address the issues of gender and age, as well as race in HIV vaccine-related research and clinical trials.

We have identified measures aimed at rectifying the injustice stemming from the frequent exclusion or low participation of women and adolescents in HIV vaccine trials. Clinical trial enrollment needs to be more inclusive, so the benefits of research are more fairly distributed," said Dr Ruth Macklin, a bioethics professor at the Albert Einstein College of Medicine.

Studies show that women, when exposed to HIV, are at least twice as likely to become infected as their male counterparts. In parts of sub-Saharan Africa, girls and young women are up to six times more likely to be infected than their male peers.

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