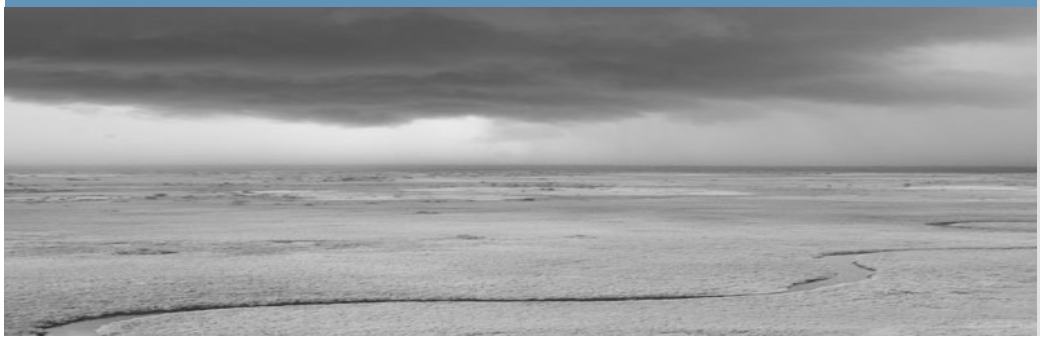
TLALELETSO



BOTSWANA-UPENN PARTNERSHIP

HIV UPDATE:
YEAR IN REVIEW

DECEMBER 2012,
ISSUE 12

UPDATES IN HIV:

2012 – YEAR IN REVIEW

Tlaleletso is a monthly publication produced by the Botswana UPenn Partnership, in response to your expressed need to have accessible, digestible clinical information.

Each issue will summarize new scientific evidence and highlight recommendations in a user-friendly format. We welcome any and all feedback on how to improve things! Please let us know what you think

Respectfully, Mike Reid

2012 has been a very exciting year for HIV research. In this edition of Tlaleletso we review some of the most interesting studies to have been published over the last 12 months. While not all of these profiled studies are 'policy' in Botswana, they all have important relevance to nurses, doctors and pharmacists working with HIV-infected patients in Botswana.

Starting from November, here are a few of the studies that we think are worth knowing about.

NOVEMBER: STARTING ARVS EARLIER SAVES LIVES!

The Botswana threshold for initiation of ARVs for HIV infected patients has been recently changed. Antiretrovirals (ART) are now recommended for all patients when their CD4 count falls to less than 350. This is an exciting advance, given that previously patients were only started on anti-retrovirals when the CD4 dropped below 250.

However, there is increasing debate whether even 350, is too late. Should patients with HIV be started in ARVs even sooner? There is evidence that treatment at higher CD4 cell counts reduces the risk of serious illness and death. Moreover, the current threshold for starting treatment may be too low for the full potential of ART as Prevention to be realized.

In this research paper from November 2012, investigators compared mortality rates between people with HIV and their HIV-negative partners. As expected, rates were higher among those with HIV: 74 HIV-positive people died during the study period compared to 25 HIV-negative partners.

The researchers looked in more detail at the CD4 cell counts of the people with HIV who died. Compared to people with a CD4 cell count above 500, those with a CD4 cell count between 350 and 499 were almost twice as likely to die.

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The risk of death was even higher for people with lower CD4 cell counts. The main implications of this study are for countries like Botswana, where many people living with HIV don't start treatment until their CD4 cell count is below 200 or even lower. However, it's also likely to be of interest to people in other settings, where there is a lot of discussion about the pros and cons of treatment at higher CD4 cell counts. There are many things that influence what threshold countries use to determine threshold for starting ARVs, including the start up resources and money required to change the guidelines. This study included only a small number of patients. However, its findings do support evidence from other research projects that have also supported the notion that starting ARVs at higher CD4 counts may be better, where money and infrastructure make this possible

Reference: Mortality in members of HIV-1 serodiscordant couples in Africa and implications for antiretroviral therapy initiation: Results of analyses from a multicenter randomized trial. De Bruyn G et al. BMC Infectious Diseases 12

AUGUST: TASK SHIFTING - NURSE-MANAGED HIV CARE

Nurse-centred care of HIV patients can be just as safe and effective as care delivered by doctors and has a number of specific health benefits, according to this study from South Africa. The study was a cluster – randomized control trial comparing clinics where nurses initiated ARTs and managed patients thereafter compared to clinics were the standard of care was maintained. More than 15,000 patients took part in the two-year trial.

The research shows that neither survival rates nor virus suppression dropped when nurses prescribed antiretroviral drugs to patients in South Africa. Health benefits included: significantly improved detection of tuberculosis; increased white blood cell count; increased weight; and improved adherence with the treatment programme.

The study provides concrete evidence that task shifting of the primary care responsibility for ART from doctors to primary care nurses in South Africa did not improve survival of patients not yet taking ART with CD4 counts less than 350, but did improve survival in patients with CD4 counts of 201-350, although the difference was not significant. This study is important because it provides evidence supporting task shifting of ART from doctors to nurses and other health workers. Given the human resource challenges in Botswana, this kind of study has significant relevance to our setting and may have an influence in shaping national policy in the future.

Reference: Task shifting of antiretroviral treatment from doctors to primary-care nurses in South Africa (STRETCH): a pragmatic, parallel, cluster-randomised trial", L Fairall et al. The Lancet

JULY 2012: PRE-EXPOSURE PROPHYLAXIS IN BOTSWANA

Several studies from a variety different settings have demonstrated that oral antivirals taken by the HIV-negative partner in a sero-discordant relationship, may reduce their risk of HIV transmission. This is referred to as pre-exposure prophylaxis.

UPCOMING LECTURES

January

Complicated cases:

ECGs made easy

February

HIV update: new drugs

March

Complicated cases: Diabetes

April

HIV update: PMTCT

One study, performed in Botswana, that evaluated this kind of risk reduction strategy was the TDF2 study which randomized 1219 HIV-uninfected, heterosexually active adults to truvada or placebo for ≥ 12 months of follow-up and found that the overall protective efficacy of truvada was 62.6% (95% confidence interval: 21.5% to 83.4%; $P = .0133$). The reduction in HIV acquisition was observed in both men and women, and medication adherence was similar between the study arms.

The study's results have created much debate across Africa. While the study demonstrated a clear protective benefit for HIV-negative partners in sero-discordant relationships, several questions remain unanswered. For example, it is unclear what the obligations of the Botswana government to provide such prophylaxis would be. Furthermore, there are also many operational steps that would need to be implemented before truvada will be more widely available for HIV-negative persons in Botswana. Many practitioners and policy makers in Botswana argue that there are more pressing HIV priorities than making pre-exposure prophylaxis widely available.

Introducing truvada for HIV negative people also raises the possibility of higher rates of NRTI-related mutations in those patients that acquire HIV while taking the prophylaxis.

Given the benefits of ART for HIV infected patients *and* their HIV negative partners, scaling up ART is more effective prevention strategy.

Reference: Antiretroviral Preexposure Prophylaxis for Heterosexual HIV Transmission in Botswana. Michael C. Thigpen et al. New England Journal of Medicine, July 2012

MAY: TENOFOVIR – SAFE IN PREGNANCY

Botswana guidelines, released earlier this year, recommend that HIV-infected women receive tenofovir-containing triple drug prophylaxis as part of the 'Option B+' approach to preventing mother to child transmission of HIV. However, few data have described long term outcomes for infants born to HIV-infected women taking ART in pregnancy.

In this study, researchers analyzed data from 382 HIV infected pregnant women on ART in Uganda and Zimbabwe. When the researchers looked at perinatal exposure to tenofovir, they found that 111 infants had >90% in utero exposure to tenofovir, 9 had 20-80% tenofovir exposure, and 62 had no in utero tenofovir exposure. Al 172 infants were HIV-negative. There was no evidence that in utero tenofovir affected growth after 2 years. Attained height and weight for age were similar to HIV-uninfected infants. Overall 1-year 5% infant mortality was similar to the 2-4% post-neonatal mortality observed in this region. There was no increase in congenital, renal or growth abnormalities observed with in utero exposure.

These findings are especially reassuring in Botswana as so many infants will be born to women that are taking atripla, a tenofovir containing regimen, during pregnancy.

Reference: Pregnancy and Infant Outcomes among HIV-Infected Women Taking Long-Term ART with and without Tenofovir in the DART Trial. Diana M. Gibb et al, PLoS Medicine, May 2012

MARCH: PREVENTING CARDIOVASCULAR DISEASE

In this study, researchers assessed the benefits of prescribing metformin to HIV-infected patients to patients that did not have diabetes. The study demonstrated that metformin prevented development of plaque (calcium build-up) on the walls of the arteries - this was an important finding given that such calcium build up is associated with an increase the risk of cardiovascular disease.

In a randomized study that took place in the US, researchers found that HIV-positive people with metabolic syndrome (ie patients with hypertension, obesity, dyslipidemia, impaired glucose tolerance or overt diabetes) who took metformin for a 12 month period, had significantly less progression of coronary artery plaque than HIV-infected individuals in the control group who were not taking metformin. cardiovascular fitness.

The study also showed that improvements in diet and exercising more also had benefits, leading to improvements in cholesterol profile, reductions in markers of inflammation and better

While the study took place in a very different group of patients from those managed in Botswana, the study has some important findings, given the rising numbers of people in Botswana living with HIV and at risk for cardiovascular disease. Currently, metformin is not recommended for HIV-infected patients with metabolic syndrome in Botswana. However, given that many HIV patients may have increased cardiovascular risk, it is always important to screen for and manage CVD risk factors such as diabetes and hypertension.

Reference: Effects of Life-style Modification and Metformin on Coronary Calcium in HIV-infected Patients with the Metabolic Syndrome. Kathleen Fitch, CROI 2012

Got a clinical question about a complicated medical patient Or a patient with HIV?

Mike Reid

267 724 78 777

OR

Miriam Haverkamp

267 76516520