



## Cluster: Health Information Research, Monitoring and Evaluation (HIRME)



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### THIS IS AN OVERVIEW BY THE NATIONAL DEPARTMENT OF HEALTH ON RESEARCH DONE GLOBALLY

#### SOUTH AFRICAN NEWS

### South African child in human immunodeficiency virus (HIV) remission without drugs

26 July 2017

At the 9<sup>th</sup> International AIDS Society conference held in Paris, France, scientists announced that a 9-year-old child from South Africa has been living with HIV in drug-free remission for 8.5 years. The child was enrolled in the Children with HIV Early Antiretroviral Therapy (CHER) clinical trial. The infants in the trial were randomly assigned to receive either deferred antiretroviral therapy (ART) or early ART for 40 or 96 weeks, at which point the treatment would be stopped. Researchers reported that, this is the third instance of prolonged HIV remission in a child after anti-HIV treatment. The research adds to a growing body of evidence suggesting that early treatment of the virus in infancy may suppress HIV to undetectable levels, which could reduce the need for life-long drug treatment. Dr Avy Violari, head of pediatric research at the Perinatal HIV Research Unit at the University of the Witwatersrand in Johannesburg, co-led the study with Professor Mark Cotton, head of the Division of Pediatric Infectious Diseases at Stellenbosch University.

The South African child was among the 143 infants who received early ART treatment for a total of 40 weeks. Before treatment, the child's levels of HIV in the blood or viral load were very high. At around 9 weeks of age the child started ART which suppressed the virus to undetectable levels. The child's treatment was halted at 40 weeks and their immune health was monitored during years of follow-up examinations. Investigators assessed the child's immune health and the presence of HIV at age 9.5 years. They found a reservoir of virus in a tiny portion of immune cells, but otherwise no evidence of HIV infection was detected and there were no associated symptoms. While the researchers detected a trace of response by the immune system, they were unable to identify any HIV capable of replicating. It was confirmed that the child does not have genetic characteristics connected with spontaneous HIV control, which suggests that the 40 weeks of ART received during infancy may have played a key role in achieving HIV remission. Since the initial treatment, the child has maintained undetectable levels of HIV. Dr Violari explained that, to their knowledge, this is the first reported case of sustained control of HIV in a child enrolled in a randomized trial of ART interruption following treatment early in infancy.

**For more info:** <https://www.medicalnewstoday.com/articles/318636.php>

### Chemistry students save water per week in laboratory

14 September 2017

Three chemistry students at Stellenbosch University save water per week by reducing their laboratory's water consumption by at least 3 000 litres per week through coming up with innovative and relatively inexpensive ways of saving water. They started to conduct trials in the medicinal and organic chemistry laboratory in response to a challenge put out by their head of department, Professor Peter Mallon to develop ways of saving water. The students explained that, with the water shortages in the Western Cape they started talking

about how they could reduce water consumption in their laboratory. This has led them to a number of changes in the way they operate water-consuming instruments. They first identified the largest consumers of water and then developed a system called a Closed Cold-Water Recycling System (CCWRS) to be used with various water thirsty laboratory equipment.

The closed system consists of a cooler box, a garden hose and laboratory silicone piping, as well as a garden fountain pump of 80L/h. The basic principle is that, the water is cooled down with ice and then recycled in a closed system, whereas previously perfectly potable tap water would have gone down the drain. The first major water-user identified was the laboratory's rotary evaporators, which used over 100 litres of water per day when running directly from the tap. The evaporator's condenser is now connected to the closed system and not to a tap and only uses about 5 litres of ice water per day. One of the three Chemistry students, Mr Jonathan Hay explained that, all three of their rotary evaporators have been running on this setup without failures of any kind even though running 8 hours a day, Monday to Friday. They also found that this method of using ice cold water allowed the solvent to condense far

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**Lesotho makes strides in human immunodeficiency virus (HIV) fight**

**22 September 2017**

Through Lesotho Population-Based HIV Impact Assessment (LePHIA), Lesotho has made huge strides in addressing the scourge of HIV and AIDS with a recent study revealing that 90.2% of people living with HIV were now on antiretroviral (ARVs) treatment. This figure surpasses the 2nd of 3 ambitious 90-90-90 treatment targets seeking to end the AIDS epidemic by 2020. The first 90 target seeks to ensure that 4( )-58(targe-7(op)49)- rge20

**Most teenagers who abuse attention-deficit hyperactivity disorder (ADHD) medication get them from others**

**18 July 2017**

The survey conducted by University of Florida in Gainesville, America shows that 54% of teenager used attention-deficit hyperactivity disorder (ADHD) medication for non-medicinal purposes. Abuse of ADHD stimulant drugs such ritalin or adderall is on the rise and a new study finds that most teens who abuse the drugs get them

## **Five essential life skills to boost well-being**

**02 August 2017**

The study conducted in the United Kingdom

does not show a direct causal relationship. Dr Nobuo Sasaki, reported that, still, the results support the hypothesis that sleep deterioration may lead to cardiovascular disease.

**For more info:** <http://www.health.com/healthday/sleepless-nights-do-no-favors-your-heart>

## **Rheumatic heart disease persists in poor regions**

**13 September 2017**

A new study shows that rheumatic heart disease has decreased over the past 25 years but is still a challenge in poor countries. The disease stubbornly persists s m C

increased collaboration with mental health providers in cancer treatment centers. He concluded by highlighting that, these efforts are particularly important for patients in urban centers, those who are female and those who are unable to work because of their disease.

**For more info:** [https://medlineplus.gov/news/fullstory\\_168609.html](https://medlineplus.gov/news/fullstory_168609.html)

## RECENT PUBLICATIONS

### **Misdiagnosis of HIV infection during a South African community-based survey: implications for rapid HIV testing**

DOI: 10.7448/IAS.20.7.21753.

#### **ABSTRACT**

**For more info:** <https://www.ncbi.nlm.nih.gov/pubmed/?term=28872274>

**Feasibility, acceptability and adherence with short-term HIV pre-exposure prophylaxis in female sexual partners of migrant miners in Mozambique**

DOI: 10.1097/QAI.0000000000001518

**BACKGROUND:**

Pre-exposure prophylaxis (PrEP) offers protection from HIV acquisition if taken as prescribed. The feasibility, acceptability and adherence with short-term PrEP among female sexual partners of migrant miners in Mozambique were evaluated.



**Enhanced Prophylaxis plus Antiretroviral Therapy for Advanced HIV Infection in Africa**

**DOI: 10.1056/NEJMoa1615822**

**ABSTRACT**

**BACKGROUND**

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# **Efficacy and safety of tenofovir-containing antiretroviral therapy in women who acquired HIV while enrolled in tenofovir gel prophylaxis trials**

## **ABSTRACT**

### **BACKGROUND**

It was assessed whether women who acquired HIV during tenofovir gel prophylaxis trials can be safely and effectively treated with tenofovir-containing antiretroviral therapy (ART).

### **METHODS**

Between May 2011 and October 2014, HIV seroconvertors from two tenofovir gel trials were recruited when eligible for ART (CD4<sup>+</sup> T-cell count <350 cells/ $\mu$ l, pregnancy or AIDS-defining illness). Women were randomized to tenofovir-containing (tenofovir + lamivudine/emtricitabine + efavirenz) or tenofovir-sparing (zidovudine + lamivudine /emtricitabine + efavirenz) antiretroviral treatment regimens. The proportion with virological suppression, adverse events and drug switches were compared.

### **RESULTS**

Fifty-nine women were enrolled and followed-up for median 18 months (IQR 6-24). Twenty-nine women (7 tenofovir gel exposed, 22 tenofovir gel unexposed) were randomized to a tenofovir-containing and 30 (9 tenofovir gel exposed, 21 tenofovir gel unexposed) to a tenofovir-sparing regimen. Median baseline CD4<sup>+</sup> T-cell count and viral load (VL) were 345 cells/ $\mu$ l (IQR 280-423) and 4.5 log copies/ml (sd 0.79), and did not differ by ART assignment. Overall VL suppression rates were 88.0% and 78.3% at 6 months (P=0.454) and 85.7% and 79.0% at 12 months (P=0.689) in women on the tenofovir-containing and tenofovir-sparing regimens, respectively. Toxicity-related drug switches were more frequent in women on the tenofovir-sparing than tenofovir-containing regimen (36.7% versus 0.0%, P<0.001).

### **CONCLUSIONS**

Preliminary data show that tenofovir-containing ART was effective and more tolerable in HIV seroconvertors from tenofovir gel prophylaxis trials and may be considered for use in women with prior tenofovir gel exposure.

**For more info:** <https://www.ncbi.nlm.nih.gov/pubmed/?term=27835613>

## **Effects of once-weekly exenatide on cardiovascular outcomes in type 2 diabetes**

DOI: 10.1056/NEJMoa1612917

### **BACKGROUND**

The cardiovascular effects of adding once-weekly treatment with exenatide to usual care in patients with type 2 diabetes are unknown.

### **METHODS**

Patients with type 2 diabetes were randomly assigned with or without previous cardiovascular disease to receive subcutaneous injections of extended-release exenatide at a dose of 2 mg or matching placebo once weekly. The primary composite outcome was the first occurrence of death from cardiovascular causes, nonfatal myocardial infarction or nonfatal stroke. The coprimary hypotheses were that exenatide, administered once weekly, would be non inferior to placebo with respect to safety and superior to placebo with respect to efficacy.

## RESULTS

In all, 14,752 patients (of whom 10,782 [73.1%] had previous cardiovascular disease) were followed for a median of 3.2 years (interquartile range, 2.2 to 4.4). A primary composite outcome event occurred in 839 of 7356 patients (11.4%; 3.7 events per 100 person-years) in the exenatide group and in 905 of 7396 patients (12.2%; 4.0 events per 100 person-years) in the placebo group (hazard ratio, 0.91; 95% confidence interval [CI], 0.83 to 1.00), with the intention-to-treat analysis indicating that exenatide, administered once weekly, was noninferior to placebo with respect to safety ( $P < 0.001$  for noninferiority) but was not superior to placebo with respect to efficacy ( $P = 0.06$  for superiority). The rates of death from cardiovascular causes, fatal or nonfatal myocardial infarction, fatal or nonfatal stroke, hospitalization for heart failure, and hospitalization for acute coronary syndrome, and the incidence of acute pancreatitis, pancreatic cancer, medullary thyroid carcinoma,

public and private sectors as well as policy and decision makers, civil society groupings and academics. It will provide a platform for sharing and exchange of lessons and best practices, establish learning networks and foster discussion of national and global health challenges towards realising the SDGs.

**For more info:** <http://www.hst.org.za/hstconference/hstconference2018/>

### **5<sup>th</sup> International Conference on Public Mental Health & Neurosciences (ICPMN 2018)**

**27<sup>th</sup> - 28<sup>th</sup> March, 2018**

India will host the 5<sup>th</sup> International Conference on Public Mental Health & Neurosciences. It will be held in Mumbai, Maharashtra on the 26<sup>th</sup> and 27<sup>th</sup> March 2018. The conference seeks collaboration within brain research, cross-disciplinary researcher mobility, and emerging trends and themes in brain research. Experts from around the world are invited to communicate the developments in neuroscience research.

**For more info:** <https://icpmn.com/>