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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 9th 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 quicker and that it is also far more effective in condensing low boiling solvents.

For more info: <http://www.sun.ac.za/english/Lists/news/DispForm.aspx?ID=5136>

'Rapidly increasing' life expectancy but disease threatens progress

15 September 2017

The latest Global Burden of Disease study data shows that South Africa (SA) continues to battle with human immunodeficiency virus (HIV), road injuries and violence as well as diseases related to obesity. Car accidents cause a significant number of deaths in the country. Professor Charles Shey Wiysonge, Director of Cochrane South Africa and a co-author of the study stated that, "Life expectancy in South Africa is rapidly increasing, but that does not mean we're enjoying healthier lives". He further said that, communicable diseases like HIV, car accidents and waves of violence are taking the lives of far too many South Africans, especially young people. South Africa is one of the few countries in the world where the number of healthy years that men and women can expect to live has fallen over the past 25 years.

The study is a peer-reviewed analysis of global data on causes of death, disease and risk factors to health loss and is in its 20th edition. It is based on research from more than 130 countries involving the work of over 2500 collaborators. Globally, 2016 was the first time in modern history where fewer than 5 million children under the age of 5 died in one year. In 1990 for example, 11 million died. The study warns that the "triad of troubles" of obesity, conflict and mental illness, including substance use disorders are threatening and preventing progress. Excess body fat is associated with a range of health risks. A high body mass index (an indicator of obesity) is the 4th largest contributor to loss of healthy life, after high blood pressure, smoking and high blood sugar. Furthermore, poor diet is associated with one in every five deaths in the world. In conclusion, Professor Wiysonge indicated that, there is a lot of work to be done.

For more info: <https://www.health-e.org.za/2017/09/15/rapidly-increasing-life-expectancy-disease-threatens-progress/>

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 by the year 2020, 90% of all people living with HIV know their HIV status and the second target seeks to ensure that 90% of all people diagnosed with HIV receive sustained antiretroviral therapy. The third target is to ensure that 90% of all people receiving ARVs will have viral suppression by 2020. Lesotho embarked on different campaigns as part of efforts to ensure that the set targets were met by 2020, including the Know Your Status, Prevention of Mother to Child (PMTCT) and Test and Treat campaigns. The country subsequently embarked on the LePHIA to measure the impact of these campaigns. The study revealed that the Lesotho had made huge progress in the fight against HIV/AIDS and surpassed the second of the 90-90-90 treatment targets.

LePHIA is a nationally representative study led by government through the Ministry of Health, with funding and technical support from the United States government through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), Centre for Disease Control and Prevention (CDC) and International Center for AIDS Care and Treatment Programs (ICAP) at Columbia University. The PHIA project consists of household population surveys to collect information related to HIV in approximately 15 countries and in Lesotho, the survey involved 10 000 households and 15 000 participants. The preliminary results released indicated that there was significant progress in controlling the HIV epidemic.

For more info: <http://allafrica.com/stories/201709280530.html>

Nearly half of abortions annually are unsafe**27 September 2017**

The study led by the World Health Organization (WHO) and New York's Guttmacher Institute find out that, 25.5 million abortions every year were conducted outside the formal health system or using traditional, invasive means. According to the research published in the Lancet medical journal, the majority of these, 97% were taking place in Africa, Asia and Latin America, affecting 24 million women. WHO reported that, around 47 000 women die from botched abortions each year, accounting for almost 13% of maternal deaths worldwide. The study's lead author, Dr Bela Ganatra from WHO said that the laws and wealth of the country influenced the safety of abortions with the highest proportion of safe abortions in wealthier countries with less restrictive laws and well developed health services. She also stated that, increasing the availability, accessibility and affordability of contraception can reduce the incidence of unintended pregnancies and therefore abortions. However, it is essential to combine this strategy with interventions to ensure access to safe abortions.

The study found out nearly 9 out of every 10 abortions in developed countries were safe, meaning they were conducted by a trained provider and using a WHO recommended method. In 57 countries where abortion was available on request, nearly 90% of abortions were safe. But only about 25% of abortions were safe in 62 countries where terminations are banned or only allowed if a woman's life or health are at risk. The study reported that, Africa was the worst region with the majority of unsafe abortions categorised as "least safe" and associated with higher rates of death.

For more info: <http://allafrica.com/stories/201709290109.html>

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 from someone else. The study lead author, Yanning Wang, from the University of Florida in Gainesville, said that, an expanding market for drugs to treat attention-deficit hyperactivity disorder (ADHD), coupled with the increasing rates of ADHD diagnosis, provides greater availability of these drugs. She added that, this raises concerns about the possible non-medical use or abuse of these medications, which include drugs such as adderall, concerta and ritalin. According to the United States National Institutes of Health (NIH), the primary agency of the United States government, when these drugs are abused they can boost blood pressure and heart rate, and interfere with sleep and appetite.

The new study focused on surveys of more than 11 000 American children and teenagers conducted between 2008 and 2011. The children between the ages of 10 and 18 and came from 10 different cities were interviewed at places like shopping malls, arcades and skate parks. Two types of ADHD medication users were included, those who only used the medications for non-medical purposes and kids who had a prescription for an ADHD medicine, but might also use the drug in a non-medical way. About 7% of the participants said they had used a prescription stimulant drug in the past 30 days. More than half said, their use was non-medical. The study found out that, almost 90% of the kids who were abusing an ADHD drug said they had used someone else's medication.

For more info: <http://www.health24.com/Medical/ADHD/Treatment/most-teens-who-abuse-adhd-meds-get-them-from-others-20160309>

Could new injection work as effectively as daily drugs?

25 July 2017

A new clinical trial suggests that, a new long-acting antiretroviral injection might be an effective alternative to daily oral doses of the same medication in the case of human immunodeficiency virus (HIV). Antiretroviral (ARV) drugs are administered to diminish the load of HIV in the system, slowing the disease and preventing transmission. According to the Centers for Disease Control and Prevention (CDC), it is thanks to ARV drugs that the number of deaths occurring as a result of AIDS, which is caused by HIV has been steadily on the decline in recent years. However, the treatment with ARV drugs is intense as the patients must take a combination of medicines every day, even after the viral load becomes undetectable in the bloodstream in order to ensure that the virus does not regain momentum. A team of researchers from a series of institutions, led by Dr David Margolis, is now testing a long-acting ARV injection that would be able to act as a replacement for daily oral medication.

Dr Margolis said that, adherence to medication remain an important challenge in HIV treatment. Long-acting injectable antiretroviral therapy (ART) could provide some patients with a more convenient approach to manage HIV infection that avoids daily oral dosing and the need to keep, store and transport medications as they go about their daily lives. The clinical trial has just completed phase II and the results are published in *The Lancet*.

For more info: <https://www.medicalnewstoday.com/articles/318584.php>

Five essential life skills to boost well-being

02 August 2017

The study conducted in the United Kingdom (UK) shows that five traits, i.e. emotional stability, determination, control, optimism and conscientiousness can lead to a healthier, less lonely and more financially stable lifestyle. They are all important "life skills" that can raise the prospects for a happy and healthy life. These are the findings from a new study of more than 8 000 people, aged 52 and older in the UK. Researchers found a link between these 5 life skills and better health, fewer chronic diseases, less depression, less social isolation and greater financial stability. The study co-leader, Professor Andrew Steptoe of epidemiology and public health at University College London said that, no single attribute was more important than others. Rather, the effects depended on the accumulation of life skills.

A Health24 article states that heart patients with a positive outlook on life were more likely to survive and return to a normal lifestyle, decreasing their risk of early death. Professor Steptoe further said that, there is research on individual factors such as conscientiousness and optimism in adults, but the combination of these life skills has not been studied very much before. The study found nearly one-quarter of people with the fewest of those five skills reported depressive symptoms. However, just 3% of people with 4 or 5 of the life skills had symptoms of depression. The findings showed that, almost half of those with the fewest skills said they had high levels of loneliness. Meanwhile, just 11% of those with 4 or 5 of the life skills said they had high levels of loneliness. According to the report, slightly more than one-third of those with the least life skills said they had poor to fair health, compared with just 6% of people with four or five of the skills. Professor Steptoe concluded that, they were surprised by the range of processes, economic, social, psychological, biological and health and disability related that seem to be related to these life skills. Their research suggests that, fostering and maintaining these skills in adult life may be relevant to health and well-being at older ages.

For more info: <http://www.health24.com/Lifestyle/Healthy-you/5-essential-life-skills-to-boost-your-well-being-20170413>

Poor sleep associated with cardiovascular diseases

30 August 2017

A new study by Hiroshima Atomic Bomb Casualty Council in Japan suggests that, poor sleep would not simply leave bleary-eyed. It is also linked with stroke and reduced blood supply to the heart. A lead researcher Dr Nobuo Sasaki of the Hiroshima Atomic Bomb Casualty Council in Japan said that, poor sleep includes too short or too long sleep, difficulty falling asleep and difficulty maintaining sleep. Poor sleep is associated with cardiovascular diseases, but the kind of sleep disturbances that are most risky is not well documented. The researchers set out to investigate sleep problems linked to heart attack and angina (coronary artery disease) and stroke. Coronary artery disease is caused by narrowed heart arteries. This means less blood and oxygen reach the heart, raising the risk for heart attack and chest pain known as angina, according to the American Heart Association.

The observational study involved nearly 13 000 men and women living in Hiroshima. These people, average age 68 were registered for a yearly health check. Close to 800 had a history of heart attack, angina or other conditions associated with reduced blood flow to the heart. The researchers reported that, 560 had a history of stroke and about 11 500 had no evidence of heart disease. The volunteers filled out a questionnaire about their sleep habits. Seven possible sleep scores ranged from mild personal views of poor sleep quality to sleep loss that interferes with normal daytime functioning. The study authors noted that, the higher the score, the worse the participants' sleep quality. Among the patients with prior coronary artery disease, 52% experienced poor sleep. The same was true for 48% of stroke survivors and just 37% of those with no history of artery disease, the findings showed. The study

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 in the world's poor regions, where penicillin is either unavailable or too costly. The study appeared in *The New England Journal of Medicine* and was co-authored by Professor Bongani Mayosi, Dean of the Faculty of Health Sciences. Titled "Global, Regional and National Burden of Rheumatic Heart Disease, 1990 - 2015". It is the first global study of its kind to track the disease over a 25-year period. Rheumatic heart disease is a condition of damaged heart valves caused by bacterial infection, often untreated strep throat which leads to rheumatic fever. While gains have been made in curbing the disease, progress remains uneven. In several regions that include some of the world's poorest countries, mortality from rheumatic heart disease has not appreciably declined since 1990. Neither has the number of people living with rheumatic heart disease.

The study shows that there were an estimated 347 500 deaths from the disease in 1990 and 319 400 in 2015, an 8% decrease. The global age-standardised death rate decreased from 9.2 per 100 000 in 1990 to 4.8 per 100 000 in 2015, a reduction of 48%. The countries with the highest estimated numbers of rheumatic heart disease deaths were India, China, Pakistan, Indonesia and the Democratic Republic of the Congo. These five nations account for 73% of global deaths from the disease. The disease is often a long-term consequence of untreated strep throat, which can be highly contagious especially for children living in overcrowded and unsanitary settings. In susceptible individuals, untreated strep throat can lead to rheumatic heart disease and heart valve damage over time. Symptoms can appear 10 to 20 years after the original infection and can disable or kill individuals during their prime working years. Pregnant women are also at very high risk. Social factors such as education, income and lack of access to healthcare have tracked closely with the disease. Professor Mayosi said that, children living in informal settlements and impoverished communities with poor access to health care are therefore most at risk, yet it can be treated with penicillin.

For more info: <http://www.health.uct.ac.za/news/rheumatic-heart-disease-persists-poor-regions>

Cancer patients may have undiagnosed depression

25 September 2017

According to a new research study conducted at Rutgers University New Jersey Medical School in Newark, depression is common though often overlooked in people with cancer. Researchers assessed depression in 400 patients treated for cancer between 2013 and 2016 at University Hospital Cancer Center, in Newark, New Jersey. They were between 20 and 86 years old, with an average age of 55. Researchers found out that, depression was found in 40% of the patients and 3 out of 4 of those patients were never diagnosed or treated for it. The study author Jason Domogauer, a Ph.D. student at Rutgers University New Jersey Medical School, in Newark said, depression prevalence continues to be high among cancer patients, especially those receiving treatment at an urban cancer center, as well as those who identify as female or are disabled by their disease. In a society news release he further explained that, alarmingly, most of these patients remain undiagnosed and untreated, indicating an important gap in cancer care and an opportunity to improve patient outcomes.

According to the United States (US) National Cancer Institute, between 15% and 25% of cancer patients have depression, a rate 2 to 3 times higher than in the general US population. The study author stressed that, diagnosis and treatment are key. Their findings point to a clear need for action including depression screening during initial and continuing patient visits, initiation of mental health treatments for identified patients and

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

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

INTRODUCTION

The overall accuracy and performance of a serial rapid HIV testing algorithm used in community-based HIV testing in the context of a population-based household survey conducted in two sub-districts of uMgungundlovu district, KwaZulu-Natal, South Africa, against reference fourth-generation HIV-1/2 antibody and p24 antigen combination immunoassays were described. Implications of the findings on rapid HIV testing programmes were discussed.

METHODS

Cross-sectional design: Following enrolment into the survey, questionnaires were administered to eligible and consenting participants in order to obtain demographic and HIV-related data. Peripheral blood samples were collected for HIV-related testing. Participants were offered community-based HIV testing in the home by trained field workers using a serial algorithm with two rapid diagnostic tests (RDTs) in series. In the laboratory, reference HIV testing was conducted using two fourth-generation immunoassays with all positives in the confirmatory test considered true positives. Accuracy, sensitivity, specificity, positive predictive value, negative predictive value and false-positive and false-negative rates were determined.

RESULTS

Of 10,236 individuals enrolled in the survey, 3740 were tested in the home (median age 24 years (interquartile range 19-31 years), 42.1% males and HIV positivity on RDT algorithm 8.0%). From those tested, 3729 (99.7%) had a definitive RDT result as well as a laboratory immunoassay result. The overall accuracy of the RDT when compared to the fourth-generation immunoassays was 98.8% (95% confidence interval (CI) 98.5-99.2). The sensitivity, specificity, positive predictive value and negative predictive value were 91.1% (95% CI 87.5-93.7), 99.9% (95% CI 99.8-100), 99.3% (95% CI 97.4-99.8) and 99.1% (95% CI 98.8-99.4) respectively. The false-positive and false-negative rates were 0.06% (95% CI 0.01-0.24) and 8.9% (95% CI 6.3-12.53). Compared to true positives, false negatives were more likely to be recently infected on limited antigen avidity assay and to report antiretroviral therapy (ART) use.

CONCLUSIONS

The overall accuracy of the RDT algorithm was high. However, there were few false positives and the sensitivity was lower than expected with high false negatives, despite implementation of quality assurance measures. False negatives were associated with recent (early) infection and ART exposure. The RDT algorithm was able to correctly identify the majority of HIV infections in community-based HIV testing. Messaging on the potential for false positives and false negatives should be included in these programmes.

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.

METHODS

HIV-negative female sexual partners of migrant miners were offered daily tenofovir/emtricitabine (TDF/FTC) for 6 weeks concurrent with miners' return home. Study visits occurred at baseline, week 4, 6, and 8. Dried blood spots (DBSs) were collected at week 4 and 6.

RESULTS

Seventy-four women (median age: 42 years) were enrolled, 95% reported having 1 sexual partner and 80% reported never or rarely using condoms. At baseline, 41% had never tested for HIV; 65% were unaware of partners' HIV status. Of all women, 72 (97%) initiated PrEP, 7 (9%) discontinued PrEP before week 6, only 1 due to adverse events. Missed doses in the last week were self-reported by 8% and 3% of women at week 4 and 6, respectively. Of 66 (89%) women with DBS at week 4, 79% had detectable tenofovir diphosphate (TFV-DP) and 44% had levels consistent with ≥ 4 pills/wk (≥ 700 fmol/punch). Of 63 (88%) women with DBS at week 6, 76% had detectable TFV-DP and 42% had levels consistent with ≥ 4 pills/wk.

CONCLUSIONS

In this first study assessing the use of short-term PrEP, a high percent of female partners of migrant workers initiated PrEP and had detectable DP levels during follow-up. Further efforts are needed to enhance adherence to ensure protection from HIV acquisition. Short-term PrEP offers promise for populations who are at high risk of HIV during specific periods of time.

For more info: http://journals.lww.com/jaids/Fulltext/2017/12010/Feasibility,_Acceptability,_and_Adherence_with.1.aspx

DOI: 10.1056/NEJMoa1615822

ABSTRACT

BACKGROUND

In sub-Saharan Africa, among patients with advanced human immunodeficiency virus (HIV) infection, the rate of death from infection (including tuberculosis and cryptococcus) shortly after the initiation of antiretroviral therapy (ART) is approximately 10%.

METHODS

In this factorial open-label trial conducted in Uganda, Zimbabwe, Malawi and Kenya, HIV-infected adults and children 5 years of age or older who had not received previous ART and were starting ART with a CD4+ count of fewer than 100 cells per cubic millimeter were enrolled in the study. They underwent simultaneous randomization to receive enhanced antimicrobial prophylaxis or standard prophylaxis, adjunctive raltegravir or no raltegravir, and supplementary food or no supplementary food. The report was on the effects of enhanced antimicrobial prophylaxis, which consisted of continuous trimethoprim–sulfamethoxazole plus at least 12 weeks of isoniazid–pyridoxine (coformulated with trimethoprim–sulfamethoxazole in a single fixed-dose combination tablet), 12 weeks of fluconazole, 5 days of azithromycin, and a single dose of albendazole, as compared with standard prophylaxis (trimethoprim–sulfamethoxazole alone). The primary end point was 24-week mortality.

RESULTS

A total of 1805 patients (1733 adults and 72 children or adolescents) underwent randomization to receive either enhanced prophylaxis (906 patients) or standard prophylaxis (899 patients) and were followed for 48 weeks (loss to follow-up, 3.1%). The median baseline CD4+ count was 37 cells per cubic millimeter, but 854 patients (47.3%) were asymptomatic or mildly symptomatic. In the Kaplan–Meier analysis at 24 weeks, the rate of death with enhanced prophylaxis was lower than that with standard prophylaxis (80 patients [8.9% vs. 108 [12.2%]; hazard ratio, 0.73; 95% confidence interval [CI], 0.55 to 0.98; $P=0.03$); 98 patients (11.0%) and 127 (14.4%), respectively, had died by 48 weeks (hazard ratio, 0.76; 95% CI, 0.58 to 0.99; $P=0.04$). Patients in the enhanced-prophylaxis group had significantly lower rates of tuberculosis ($P=0.02$), cryptococcal infection ($P=0.01$), oral or oesophageal candidiasis ($P=0.02$), death of unknown cause ($P=0.03$) and new hospitalization ($P=0.03$). However, there was no significant between-group difference in the rate of severe bacterial infection ($P=0.32$). There were nonsignificantly lower rates of serious adverse events and grade 4 adverse events in the enhanced-prophylaxis group ($P=0.08$ and $P=0.09$, respectively). Rates of HIV viral suppression and adherence to ART were similar in the two groups.

CONCLUSIONS

Among HIV-infected patients with advanced immunosuppression, enhanced antimicrobial prophylaxis combined with ART resulted in reduced rates of death at both 24 weeks and 48 weeks without compromising viral suppression or increasing toxic effects.

For more info: <http://www.nejm.org/doi/full/10.1056/NEJMoa1615822#t=abstract>

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⁺ T-cell count <350 cells/ μ 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⁺ T-cell count and viral load (VL) were 345 cells/ μ 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, and serious adverse events did not differ significantly between the two groups.

CONCLUSIONS

Among patients with type 2 diabetes with or without previous cardiovascular disease, the incidence of major adverse cardiovascular events did not differ significantly between patients who received exenatide and those who received placebo.

For more info: <http://www.ingentaconnect.com/contentone/iatd/ijtd/2016/00000020/A00112s1/art00011>

UPCOMING EVENTS

South African Statistical Association (SASA) Annual Conference

27-30 November 2017

The 2017 SASA Conference will be hosted by the University of Free State from 27 to 30 November 2017 at Ilanga Estate, Bloemfontein. Discussions and workshops will cover BIG sets of data and how to handle them, BIG and extreme value modelling, and BIG computer tools, like Statistical Analysis System (SAS).

For more info: <http://www.sastat.org.za/sasa2017>

8th Child Health Priorities Conference

30th November - 02nd December 2017

The 8th Child Health Priorities Conference will be held at University of Pretoria, Sanlam Auditorium under the theme: "Beyond child survival". This will be the opportunity to network with people working in child health and to hear about innovations and progress in Child Health in South Africa. Provisional Scientific focus are: 1).Child health priorities to meet the SDGs, 2).Newborn care, 3).Double burden of under nutrition and obesity 4).Health care for children with disabilities and 5).Adolescent sexual health.

For more info: <http://childhealthpriorities.co.za/>

2018 Health Systems Trust Conference

9th - 11th May 2018

Health Systems Trust (HST) will host its second conference from 9th to 11th May 2018 at Birchwood Conference Centre, Boksburg, Gauteng Province. The theme of the 2018 conference is "Re-imagining Health Systems towards Achieving the Sustainable Development Goals" places sustainable development at the forefront of the public health agenda. The three-day conference will convene healthcare workers from the

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/>

5th International Conference on Public Mental Health & Neurosciences (ICPMN 2018)

27th - 28th March, 2018

India will host the 5th International Conference on Public Mental Health & Neurosciences. It will be held in Mumbai, Maharashtra on the 26th and 27th 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/>