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Scientists at work: Researchers say that even though they are yet to get an AIDS vaccine, work is still on to get one that will offer sufficient protection from HIV.

Back to drawing board for HIV vaccine search

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The journey to search for HIV vaccine will take longer. This is after data showed that an investigational HIV vaccine regime did not provide sufficient protection against HIV infection.

The study known as Imbokodo (HVTN 705/HPX2008) was carried in a population of 2, 637 young women in Malawi, Mozambique, Zambia, Zimbabwe and South Africa who are at high risk of acquiring HIV.

Although the clinical trial for the vaccine has failed the efficacy, the vaccine was found to have a favourable safety profile with no serious adverse events.

“The Imbokodo vaccines did not contain HIV and the vaccines were therefore unable to transmit HIV to study participants. All women who joined the study were always provided risk reduction counselling on ways to keep healthy and prevent HIV acquisition,” reads the statement from Johnson & Johnson, the manufacturer.

In what has become an all too familiar outcome in the decades-long search for an effective human immunodeficiency virus, acquired immunodeficiency syndrome (HIV/AIDS) vaccine, yet another candidate has failed in a large-scale study.

“We have to fundamentally relook at what we’re doing,” said Glenda Gray, who heads the South African Medical Research Council and oversaw the protocol for the trial, which compared the efficacy of the vaccine to a placebo.

The study tested whether the Imbokodo vaccine regimen could prevent women from getting HIV. Over 2,000 women were enrolled and given four different shots over 12 months. The first jab, meant to ready (prime) the body to produce defences against the virus was administered followed by two booster shots. Vaccinations were completed in June 2020.

The results, announced on August 31, 2021 by J&J in a press release, found 63 infections in the placebo group compared to 51 in participants who received the vaccine whose efficacy was 25.2 percent—too low to make it useful.

Even though the vaccine, supported by both the U.S. National Institute of Allergy and Infectious Diseases and the Bill & Melinda Gates Foundation, was found to be safe and did not cause any harm, it had a wide “confidence interval” in that result, and it did not reach statistical significance.

Confidence intervals measure the degree of uncertainty or certainty that something like a vaccine will be effective.

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Back to drawing board for HIV vaccine search

"The trial held great promise that it might prevent HIV but findings showed the vaccine does not provide sufficient protection. There was some hint that it was partially working which is not strong enough to get it licenced hence the trial has been stopped," explained Mitchell Warren, executive director, AIDS Vaccine Advocacy Coalition.

According to experts, so far, the Imbokodo study has produced "more" promising data than two other disappointing AIDS vaccine efficacy trials.

"We always hope that efficacy trials will show positive results that lead directly to new prevention options," noted Mr Warren. "It is very disappointing that this particular vaccine candidate did not work in this trial, but the trial was well-conducted and got an answer quickly.

HIV remains a global threat, and a safe, efficacious, and accessible HIV vaccine is still needed to contribute towards curbing new infections and providing a durable end to the pandemic. In 2020, there were 37.7 million people living with HIV, with 53 percent being women and girls. The UNAIDS estimates that about 6.1 million people did not know that they were living with HIV in 2020.

J&J's chief scientific officer, Paul Stoffels, says despite the failure, a second efficacy trial of a similar vaccine in a different study population will continue. That Mosaico trial, which is taking place in the Americas and Europe and started in 2019, involves 3,800 transgender people and men who have sex with men.

"This is in no way the end of the search for an HIV vaccine," added Warren. "We still hope for a positive outcome from the ongoing Mosaico and PrEPVacc studies, which combines evaluation of experimental HIV vaccines and pre-exposure prophylaxis in East and Southern Africa from 2018 to 2023.

Warren spoke during a webinar attended by scientists and journalists which was hosted just few hours after the announcement of the HIV vaccine failure report, on August 31, 2021.

The search continues, say scientists after setback on HIV vaccine trial



Mitchell Warren, AVAC Executive Director

By Christine Ochogo | christawine@gmail.com

Scientists have played down fears that they may call off the search for a HIV vaccine after a recent study failed to reduce the overall risk of HIV acquisition among women in five sub-Saharan African countries.

Noting that even though the study did not find the product under test effective as a HIV vaccine, hope still lies on other major trials still ongoing globally.

A major vaccine currently being tested at scale is the Mosaico trial, which is testing a vaccine among transgender people and gay men and other men who have sex with men in the Americas and in Europe.

The scientists were addressing journalists after Johnson & Johnson and partners announced that the Imbokodo study, a large-scale HIV vaccine proof-of-concept trial also known as HVTN 705/ HPX2008, did not significantly reduce the overall risk of HIV acquisition among women in five sub-Saharan African countries.

The report indicated that the vaccine trial, which was being conducted among 2,637 young women aged between 18 and 35 years in five countries (Zimbabwe, South Africa, Malawi, Zambia and Mozambique) did not provide sufficient protection, with a paltry 25.2 percent efficacy attained.

In a statement to the media, Paul Stoffels, Managing Director, Vice Chairman of the Executive Committee and Chief Scientific Officer at Johnson & Johnson thanked the women who participated in the trial and the company's partners.

"We are extremely grateful to the women who volunteered for the Imbokodo study, and to our partners, including the people on the frontlines, all of whom are contributing every day to this enduring quest to make HIV history," he said.

"While we are disappointed that the vaccine candidate did not provide a sufficient level of protection against HIV infection in the Imbokodo trial, the study will give us important scientific findings in the ongoing pursuit for a vaccine to prevent HIV," he added.

"We must apply the knowledge learned from the Imbokodo trial and continue our efforts to find a vaccine that will be protective against HIV," added Anthony Fauci, director of the US National Institute of Allergy and Infectious Diseases which co-funded the study.

Speaking during a media science café by Media for Environment, Science, Health and Agriculture (MESHA), AVAC Executive Director Mitchell Warren said the HIV vaccine trial was not a total failure. Warren said the trial is important for science research as it directs the next step in learning because it gave quick results and clues that can be used in the other ongoing vaccine trials.

"The Imbokodo study was a beautifully designed study that was safe and well conducted even with the disappointing results," he said.

Warren said HIV remains a global threat, and a safe, efficacious and accessible HIV vaccine is still needed to contribute towards preventing new infections and providing a durable end to the scourge.

He said there is still hope in the fight against HIV, with two other major trials still ongoing in Africa.

"This is in no way the end of the search for a HIV vaccine. We still hope for a positive outcome from the ongoing Mosaico and PrEPVacc studies," he said.

The AVAC director further noted that now more than ever, the vaccine field needs diversity and creativity and even more collaboration interns of research and product delivery.

He said there was a need to scale up the delivery of available, safe and effective HIV prevention options, including male and female condoms, voluntary medical male circumcision and daily oral PrEP.

"Other additional prevention options are nearing availability, including the dapivirine vaginal ring and injectable cabotegravir, and several next-generation PrEP options are now entering advanced clinical trials," he added.

His sentiments were echoed by Ntando Yola, a health advocate, who called for collaborated efforts by all stakeholders in coming up with correct messaging in communicating the science of health.

"How effective we are in sending science health messages to the public will help in curbing misinformation on vaccines not only HIV related," said Yola.

For 40 years, scientists have been searching for an effective HIV vaccine in vain, given the mutating nature of the disease and the various strains circulating in different regions globally.

In February last year, the United States National Institutes of Health announced that its HVTN 702 clinical trial of an HIV vaccine, also known as Uhambo, had been stopped. While no safety concerns were found during the trial, the independent data and safety monitoring board found that the vaccine was ineffective in preventing HIV transmission.

The trial, conducted at 14 sites across South Africa, followed more than 5400 HIV-negative 18–35-year-olds over 18 months.

The participants received six injections during the six-month period, either the vaccine or a placebo. An analysis undertaken after at least 60% of the participants had been in the study for more than 18 months showed that there were 129 HIV infections among the people who had the vaccine, while 123 people who had the placebo became infected.



East African Conference of Science Journalists

23 - 26 Nov, 2021, Venue: Kisumu, Kenya

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Kenya receives strawberry-flavoured ARVs for children

By John Muchangi | jomunji@yahoo.com

Photo Credit | Aghan Daniel

Kenya is expected to roll out the strawberry-flavoured tablet for children living with HIV anytime, having received the first shipment in July.

Unitaid, a global agency that raises money for HIV interventions, confirmed it had distributed 100,000 packs of the dolutegravir formulation in Kenya, Nigeria, Malawi, Uganda, Zimbabwe and Benin.

"Thanks to Unitaid and CHAI health, children in Nigeria, Malawi, Uganda, Kenya, Zimbabwe, and Benin now have access to the best HIV medication adapted to their needs," Unitaid said in a tweet on July 29.

This was also confirmed by Unitaid spokesman Herve Verhoosel in a statement to Reuters.

"With the recent delivery of the formulation in those 6 first countries, this project is now a reality," Verhoosel told the news agency.

Unitaid, Clinton Health Access Initiative (CHAI), and national ministries of health are partnering with the US President's Emergency Plan for Aids Relief (PEPFAR) to drive early access to the drug in the six countries to generate feedback on early use, to help inform wider adoption and scale-up.

Jacqueline Wambui, a Kenyan activist who has lived positively for 17 years, welcomed the development.

"The issue is so touching to me personally. Just to realise that the children seemed to be having difficulties in taking the syrup because it was too bitter.

We have come a long way with medical formulations for paediatric HIV," she told members of the Media for Environment, Science, Health and Agriculture (Mesha) in a webinar on August 27.



Young healthy children on a family outing. Those who are already living positively in Kenya will benefit from a strawberry-flavoured tablet.

She added: "We have moved from pills to a syrup to a pellet that was mixed with food, which was also difficult for some of the children. It is our hope that more of such innovations will be designed to make HIV care a pleasant experience for people living positively, including the children."

The new dolutegravir formulation is the first-line HIV treatment recommended by the World Health Organisation (WHO) from the age of four weeks and 3 kilos (6.6 pounds).

However, it had been out of reach for babies because of the lack of appropriate formulations.

To make it accessible, Unitaid and CHAI last December reached a pricing agreement with the generic drugmakers, Viatrix and Macleods, to buy the formulation at a yearly cost of \$36 per child, down from around \$400.

The DTG is more effective, easier to take for children, has fewer side effects than alternatives, and has a high genetic barrier to developing drug resistance.

It is expected that it will enable children to successfully remain on medication and prevent thousands of premature deaths each year.

"This groundbreaking agreement will bring quality assured dispersible DTG to children at a record pace. Ensuring access to this treatment will transform the lives of children living with HIV, helping them to remain on treatment and saving thousands of lives," said Unitaid's Executive Director Philippe Duneton in a statement in December 2020 when the agreement was made.

In 2020, after the deal was announced, Kenya's Health Cabinet Secretary, Mũtahi Kagwe, said, "Kenya intends to be a first adopter of the new paediatric DTG 10mg formulation, which will improve treatment, reduce unpleasant side effects, and help children to adhere to their treatment and live healthy lives."

He added: "We are delighted that for the first time Kenya and other countries can provide children the same quality of treatment as adults, which has been made possible through the development of this new formulation."

The catch 22 situation in using HIV self-test kits

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Several years ago, Tony Nyongesa, who lives in Nairobi, would walk into a health facility every three months to test for HIV. This was until last year when he learned of the self-test kit from a scientist friend.

"I first visited him in his office where he tested me and I saw how it worked. He then gave me two kits and instructions on how to use them.

I went home and my wife and I took the test together," Nyongesa narrates. The 32-year-old teacher says they received their results in less than 10 minutes. He admits this option has saved him and his wife fear and stigmatisation from people.

He still takes the test every three months, only that this time he uses the self-test kits, thanks to his friendship with the scientist.

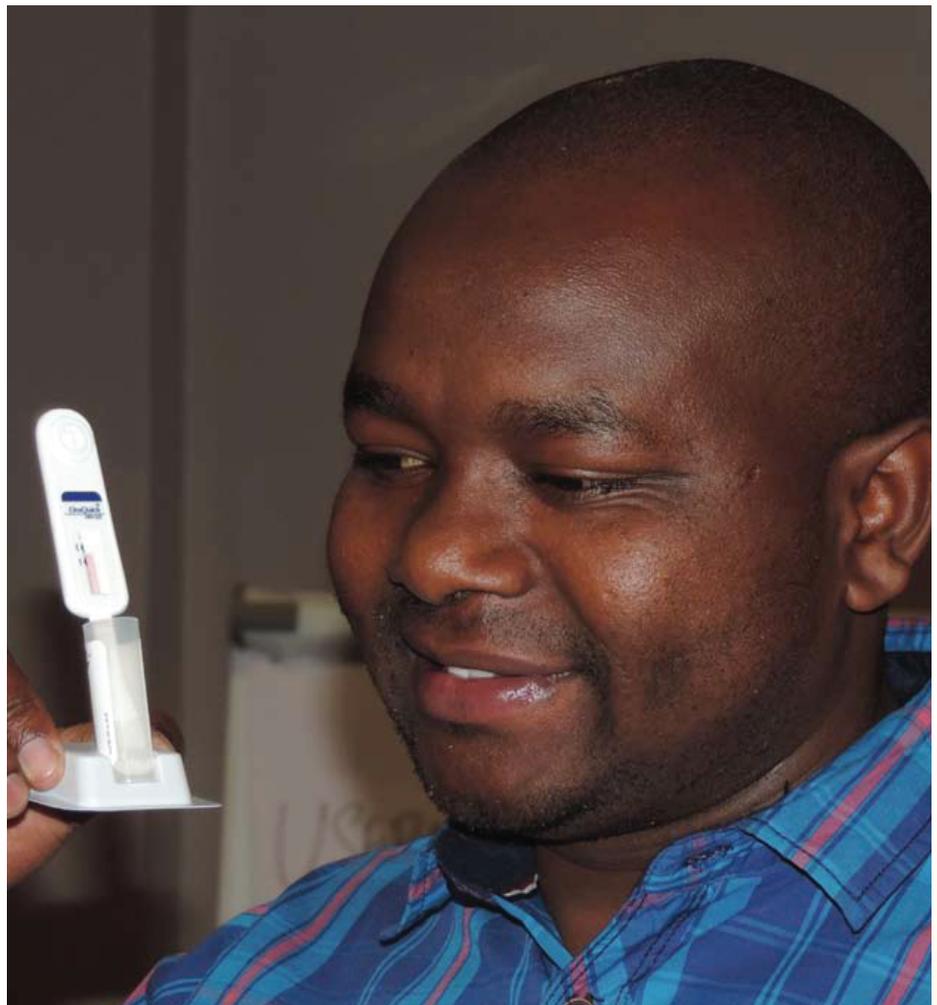
"Before I could go for a test, I was very worried of people talking. I would also ask myself, 'what will happen to me if I test positive'," he says.

Gideon Oduk, a resident of Busia County, has also used the self-test kit. He says in 2019 when he wanted to know his HIV status, he walked into a support centre in the area where he was given the kit.

"I talked to a friend who does HIV testing and counselling and he gave me a kit and told me how to use it," Oduk says.

He says his worst moment was the period he was waiting for the result. He says he was apprehensive of what would happen next if the result turned out positive.

"I used it once and I have not had reasons to do another test. Self-test is more confidential," he says.



A health advocate, Mr Peter Mogere of KEMRI displays a self test kit to journalists in a 2018 science café by MESH.

For a musician based in Nairobi, however, he first and last heard of self-test kits in a local radio programme. He says he heard a guest in the show talk about it and how easy it is for one to test at the comfort of their homes. Unfortunately, he has never seen the kit or heard of it again.

The kits have been supplied in some institutions of higher learning. They are also available in health facilities, some at a fee and others for free.

"The government should supply more self-test kits and make them available to the local people. They should also do more awareness," he urges.

The kits have been supplied in some institutions of higher learning. They are also available in health facilities, some at a fee and others for free.

A counselling psychologist specialised in HIV, Alfred Nandwa, says the self-test kit is a remarkable step in the fight against the scourge, but it has its own challenges. For instance, it may at times give false results, which is dangerous.

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The catch 22 situation in using HIV self-test kits

“When you walk into a health facility for a test, there is usually pre-test and post-test counselling. But in using self-test kits there is no counselling, which is also dangerous,” says Nandwa.

If the test result is positive, says Nandwa, the person is supposed to visit the nearest health facility for a confirmatory test. He also raises a concern about partners accepting the results, saying some may live in denial.

“When people in a sexual relationship decide to do self-test then one turns out to be positive and they have had unprotected sex, a dangerous fight may ensue between them,” says Nandwa.

In doing a self-test, one can either use blood base or oral base sample, which you swab from your gums.

Prof Kenneth Ngure of Jomo Kenyatta University of Agriculture and Technology (JKUAT) says self-test kit is mostly targeted at men because they have a poor health seeking behaviour and their uptake of HIV services is lower.

“They are known as screening tools. So, when the result is positive or one is unable to interpret it, they are required to go to a facility for confirmation. However, for a negative result, you don’t need to go for confirmation,” he said.

Prof Ngure was speaking during a science café on HIV prevention organised by the Media for Environment, Science, Health and Agriculture (MESHA) on August 28, 2021. The café was attended by science and health journalists from Kenya.

Kenya launched the self-test kit in 2017 in response to the low testing rates, especially among young men.

According to UNAIDS, in 2015, there were an estimated 78,000 new HIV infections in Kenya.

UNAIDS report also indicates that around 400,000 of the 1.5 million people living with HIV in Kenya by then did not know that they had the virus and so did not seek life-saving treatment.

Pre-exposure prophylaxis usage gains traction, surpasses PEPFAR target



Professor Kenneth Ngure, a researcher on HIV prevention and Chair, Department of Community Health at Jomo Kenyatta University of Agriculture and Technology

By Joyce Chimbi | j.chimbi@gmail.com

Oral Pre-exposure prophylaxis (PrEP) uptake is on a steady rise and Kenya now has Africa’s largest PrEP programme.

In 2016, a year after the World Health Organization (WHO) released new guidelines recommending that PrEP be offered as an option for people at a substantial risk of acquiring HIV, Kenya included this cost effective option in its HIV prevention tool box.

Today, an estimated 111,000 to 112,000 individuals are on PrEP, over and beyond the US President’s Emergency Plan for AIDS Relief (PEPFAR’s) target of 99,896.

Initially offered to key populations such as sex workers, men who have sex with men and drug users, the assessment for PrEP eligibility was subsequently broadened to address other groups of interest including those with an HIV incidence or new HIV cases greater than three per 100 persons per year.



Young women journalists at a past science media cafe by MESHA. PrEP has proven effective for people at a higher risk of acquiring HIV and have limited options to protect themselves.

Such groups include young people, adolescents and women as they are disproportionately affected by the virus, and in which the number of new cases per 100 people who test positive for HIV meet WHO definition of a priority group.

PrEP is available free of charge in more than 3,000 health facilities spread in priority areas where HIV burden is heaviest in the country. Thus far, government statistics show PrEP uptake is highest among couples and female sex workers.

As per the Ministry of Health guidelines, PrEP is offered to HIV negative persons with a sexual partner known to be HIV positive and not on antiretroviral treatment (ART), or the HIV positive partner has been on ART for less than six months.

There is a substantial risk of acquiring HIV if the positive partner is suspected to have poor adherence to ART, or the person's most recent viral load or amount of HIV in their body is detectable. Experts advise condom use if a HIV positive partner has a low or undetectable viral load.

Eligibility to receive PrEP further includes sexual partner(s) of unknown HIV status, has multiple sexual partners, has had STIs, engages in transactional sex, injects drugs or are from high HIV burden settings.

Individuals that recurrently use post-exposure prophylaxis (PEP), which is started within 72 hours after a possible exposure to HIV and those with a history of having sex whilst under the influence of alcohol or recreational drugs as a habit, especially injection drugs where needles and syringes are shared are also included.

Inconsistent or no condom use or inability to negotiate condom use during intercourse with persons whose HIV status is unknown or couples trying to conceive where one partner is HIV positive also meet the threshold to receive PrEP.

The individual receiving PrEP must have a confirmed HIV negative on the day of PrEP initiation and must also not present with a current or recent (within one month) illness consistent with acute HIV infection such as fever, sore throat, muscle or joint pains, swollen glands, diarrhea or headache in combination with a preceding high-risk exposure for HIV.

A person who has chosen PrEP as an option must use medication as instructed, consistently and must be willingly to attend follow-up evaluation appointments with their health providers. This is critical as evidence shows PrEP reduces the risk of HIV infection from unprotected sex by 90 percent, and risk of acquiring HIV from injecting drugs by more than 70 percent.

Importantly, research shows these statistics include individuals with lower PrEP adherence levels. The actual level of protection for those that adhere or take PrEP as instructed is higher and near 100 percent.

PrEP has proven effective for people at a higher risk of acquiring HIV and have limited options to protect themselves through condom use or being in monogamous relationships. This is the same protection that women now seek from the dapivirine vaginal ring.

Touted as a game changer as it affords women the option to protect themselves on their own terms, the vaginal ring is yet another much needed option to broaden the HIV prevention model, especially for women who remain at a greater risk of acquiring HIV.

Still, eight months down the line since WHO put a stamp of approval on the vaginal ring as a viable option for HIV prevention, it is not clear what steps Kenya has or is taking to include it in existing HIV prevention programmes.

A HIV prevention tool box with many options could change the trajectory for women, young people and adolescents. Increased availability and accessibility of discreet HIV prevention choices could significantly help them to overcome both gender and age related barriers that face this cohort along their HIV prevention journey.



A health advocate, Ms Philister Madioga, of KEMRI displays a vaginal ring during a recent MESHA media science café.

Scientists now testing vaginal ring that can prevent HIV and pregnancy

By Njeri Murigi | @millymur1

Seven months after the World Health Organisation (WHO) approved the dapivirine vaginal ring as a new choice for HIV prevention for women at high risk of infection, researchers are now testing a two-in-one method that can prevent both HIV and pregnancy.

The revelation was made during the 11th IAS Conference on HIV Science, which took place virtually from July 18-21, 2021, by Dr Sharon Hillier of the University of Pittsburg. IAS Conference on HIV Science is the world's most influential meeting on HIV research and its applications.

Presenting the IAS conference updates to journalists during a Mesha science café in Nairobi on August 27, Prof Kenneth Ngunjiri, the Chair, Department of Community Health at Jomo Kenyatta University of Agriculture and Technology (JKUAT), said the new product being tested will be a 90-day dual-purpose vaginal ring, and is being developed by the nonprofit International Partnership for Microbicides (IPM).

According to him, high rates of HIV transmission and unintended pregnancy in some countries spurred the search for prevention methods that could prevent both.

Prof Ngunjiri says the best thing about the ring, which contains dapivirine and levonorgestrel (contraceptive), is that results presented at the conference reported safety and potential to offer women a discreet and long-acting product to simultaneously meet two major sexual and reproductive health needs, as well as offer greater convenience.

The ring builds on similar technology used for IPM's monthly dapivirine-only ring, which is the first long-acting, self-initiated, female-only HIV prevention method that has been shown to safely reduce the risk of HIV infection among sexually active women.

Though the ring currently lasts a month, IPM is also testing one that can last for three months, and results presented by Dr Hillier at the IAS meeting showed it had achieved 3-4 fold higher drug concentrations in the cervix, which could translate to even better HIV protection compared to the monthly ring.

"This milestone marks an important step towards expanding the number of biomedical HIV prevention and contraceptive options available to women. But be ready to wait a little bit longer before the products get to the market because research takes time," she said.

The dapivirine vaginal ring is similar to Nuvaring, a contraceptive ring that many people are familiar with, which releases hormones to the female reproductive tract to prevent pregnancy. Women can insert the ring themselves and, for a month, it slowly releases dapivirine to protect against HIV infection.

Available information shows that whereas the monthly vaginal ring for HIV prevention only contains 25mg of dapivirine, the dual-purpose ring contains 200mg of dapivirine to allow for its extended release over three months, as well as 320mg of levonorgestrel, a synthetic progestin used in many contraceptives, either alone or in combination with estrogen.

Since the product is still in early-stage development, Ngunjiri says people should expect it in the market in the next few years.

The dapivirine-contraceptive ring is not the only multipurpose prevention technology that is being developed. Other technologies are being developed to prevent unwanted pregnancy and a broad spectrum of STIs. For example, the Population Council is developing a vaginal insert to lower vaginal acidity (pH). This will inactivate sperm and bacteria. A variant on this product also contains an agent that stops HIV from entering cells.

Altogether, 24 products are in development, most still in pre-clinical laboratory testing, according to the Initiative for Multipurpose Prevention Technologies.

Progress made in keeping HIV at bay

By Ann Mikia | annmikia@gmail.com

While there is still no cure for HIV and Aids since it was first reported in the world, strides have been made in improving the lives of people living with the virus.

According to joint United Nations Programme on HIV/AIDS approximately 1.4 million Kenyans are living with HIV and with efforts to fight the disease, 1.2 million people are on treatment. The World Health Organisation says antiretroviral therapy reduces the viral load in patients to undetectable levels making it hard for them to spread the virus.

Testing and counselling services are now available all over including self-testing in one's comfort. Jacque Wambui has lived with HIV for 17 years. She has reservations regarding the secret self-test method. Wambui says she's not sure that would have worked for her when she tested HIV positive.

"It took me six hours with the doctor who tested me because I had so many questions. How would self-testing have worked for me then?" she said, adding that on the other hand, when one tests themselves, then it remains strictly confidential.

She was speaking at a Media for Environment, Science, Health and Agriculture (MESHA) science café on HIV prevention, where Professor Kenneth Ngunjiri, a researcher on HIV prevention, shared a raft of products ready for use to prevent HIV infection. All products were discussed at the recent virtual International Aids Conference (IAS 2021) in July.

Professor Ngunjiri said researchers are coming up with a vaginal ring that can hit two birds with one stone by preventing both HIV and pregnancy. The ring are designed to last for three months, making it easier to be accepted by users who may not prefer changing it frequently. He was quick to caution that the ring doesn't prevent other sexually transmitted transmissions.

Professor Ngunjiri also talked about other prevention measures including the oral Pre-exposure prophylaxis (PrEP).

Though findings on the efficacy of HIV prevention commodities are good, governments will be grappling with a number of issues to make the roll out successful in the near future. These include dealing with adherence stigma, barriers of accessibility to health facilities, affordability and ensuring commodities are discreet, especially for users who require consent from their partners/spouses. An example of adherence stigma is avoiding to swallow a pill when with people one may not be comfortable with. Some health facilities may be too far apart and with limited infrastructure.

De-medicalization of the commodities would make it easier for community health workers to deliver them to users at home. Prof Ngunjiri also mentioned integrating commodities with other health services instead of standalone clinics such as the Comprehensive Care Centres will make it easier for people who may not want to be known for the services they are seeking at the health facilities. Researchers are also working reduce the burden of treatment by reducing the frequency of taking medication.

Pre-Exposure Prophylaxis uptake is gaining momentum

By Sharon Kiburi | kiburisharon@gmail.com

A HIV prevention expert has urged Kenyans to continue using Pre-Exposure Prophylaxis (PrEP) as it has proven effective in reducing risk of infection transmission.

Prof Kenneth Ngunjiri, in his address at the 39th edition of Science Media Cafe by the Media for Environment, Science, Health and Agriculture (MESHA), says the uptake of PrEP was encouraging, especially among key populations.

"One of the main challenges to the uptake of PrEP as a prevention method has been the delivery which requires one to visit a health centre. Innovation on delivery models has seen an increase of one hundred and ten uptakes in the number of people getting on PrEP globally," he said.

Further, he noted that in addition to the oral PrEP model, WHO has recommended using Dapivirine Vaginal Ring as an HIV prevention method.

According to Prof Ngunjiri, the global target was to have three million people on PrEP before 2020. As at 2021, it is estimated 1.3 million people are on this prevention method.

Oral PrEP is taken in a single tablet every day. The pill prevents the virus from copying itself in the body and contracting of HIV when exposed. The Dapivirine Vagina Ring stays in one's body for three to six months, it releases chemicals that prevent HIV infection, explained Prof Ngunjiri.

In the just-concluded IAS conference 2021, Microbicide Trial Network (MTN) presented a research study on the adherence of dapivirine vaginal ring and oral PrEP in adolescent girls and young women in Africa. According to Prof Ngunjiri, the research was conducted in Uganda, Zimbabwe and South Africa.

"The efficacy adherence for those over 25 was 61 per cent, those of 25 was 10 per cent, while those between 18-20, there was no efficacy," said Prof Ngunjiri.

Research reported by AVERT, a UK charity that uses digital communications to build health literacy on HIV and sexual health, on global information and education in HIV and AIDS has shown that PrEP has reduced the risk of HIV infection from unprotected sex by over 90 per cent and more than 70 per cent in people who inject drugs. These statistics include individuals with lower adherence levels.

Options now available for women to reduce HIV risk

Photo Credit | WACI Health



Rosemary Mburu, Executive Director, WACI Health addresses the media about the vaginal ring last November. The female initiated option for HIV prevention has been hailed as a step in the right direction considering women in many parts of the world are disproportionately affected by HIV.

By Joyce Chimbi | j.chimbi@gmail.com

Experts in HIV prevention and treatment have laid bare how rapidly HIV prevention methods are evolving and particularly with a special focus on women, and more so adolescent aged 15 to 19 years.

This is especially important because in 2018, Kenya was flagged as having the third-largest HIV epidemic in the world, alongside Tanzania, with 1.6 million people living with HIV.

In that same year, an estimated 25,000 people died from AIDS related illnesses as per the National AIDS and STI programme (NASCOP) statistics.

Speaking during a media café held on August 27, 2021, Prof Kenneth Ngure of the school of public health, Jomo Kenyatta University

of Agriculture and Technology said that particularly significant in broadening options for women is how disproportionately they have been affected by HIV/AIDS compared to men.

In 2017, NASCOP estimated that the national adult HIV prevalence rate was at 4.9 percent, with prevalence being higher among women at 5.2 percent than men at 4.5 percent by More so, NASCOP stated that “the national HIV prevalence among males and females aged 15-24 years was estimated at 1.34 percent and 2.61 percent in 2017 respectively, and overall HIV prevalence was 1.98 percent, which means 184,718 young adults living with HIV in 2017.”

Prof Ngure, also a Governing Council member representing the Africa region at the International AIDS Society (IAS), said HIV prevention has come a long way.

“Before 2012, we only had two HIV prevention models the ABC (Abstinence, Be Faithful, and Use a Condom) and correct and consistency use of condoms,” he stated.

Informed by research into the limitations of the aforementioned methods, including research by the Joint United Nations Programme on HIV/AIDS (UNAIDS) that revealed that “for many women in developing countries, the ABC approach is of limited value due to their lack of social and economic power. They cannot negotiate abstinence from sex, nor can they insist their partners remain faithful or use a condom.”

Within this context, HIV experts have emphasised that HIV prevention is critical in the fast-track strategy to end AIDS by 2030.

In a science media café by the Media for Environment, Science, Health and Agriculture (MESHA) attended by health journalists and experts in the field of HIV prevention and treatment, participants heard about options for intravaginal products, the relevant regulatory approvals, challenges with existing options and what the next generation of intravaginal products will offer.

Prof Ngure discussed how various studies are confirming that adolescents and young women can consistently use the dapivirine vaginal ring and daily pills for HIV pre-exposure prophylaxis (PrEP) when they receive adherence support. He said this evidence was presented at the 11th IAS conference held virtually on July 18-21, 2021.

He added that there were other studies that showed both the ring and oral PrEP were safe for pregnant women and that this was key as HIV prevention using the two prevention methods was an understudied area.



Scientists say that biological and social factors contribute to high rates of infections among women. They add that the high number of infections among women does not mean they have more risky sexual behaviors compared to men.

In a landmark decision that put a stamp of approval on the vaginal ring, back in January 2021, the World Health Organisation (WHO) recommended the dapivirine vaginal ring as “a new choice for HIV prevention for women at substantial risk of HIV infection.”

Prof Ngure explained that the ring is a female initiated approach towards reducing the risk of acquiring HIV.

While issuing its recommendation, WHO stated that the ring is worn inside the vagina for a period of 28 days after which it should be replaced by a new one. HIV experts emphasise that recommended vaginal ring is made of silicone and therefore easy to bend and that women can insert the ring themselves.

Once inserted, the ring releases antiretroviral drug, dapivirine into the vagina slowly over a period of 28 days and thereby reducing the risk of acquiring HIV during vaginal sex. Experts emphasise that the ring should be used with other safer sex practices.

Jacqueline Wambui said this is nothing but good news for women. The health rights advocate, and a passionate advocate for HIV prevention and treatment spoke of the need to lower barriers in accessing existing HIV prevention models, especially with regard to both vaginal rings and oral PrEP.

Wambui further spoke of the need to create visibility around challenges in accessing HIV prevention methods that have been introduced or compounded by the ongoing COVID-19 pandemic.

She further waded into the U=U, a global campaign to raise awareness on the importance of HIV care and treatment in saving lives and prevention of new HIV transmission built on the premise that Undetectable (HIV viral load) = Untransmittable.

Wambui said as options broaden, there is a need to scale up and to integrate newer prevention models into “existing prevention and treatment programmes. The effectiveness of PrEP roll up strategies and the need for these programmes to reach the people who need them most cannot be overemphasised.”

She particularly hails the vaginal ring as a discreet option for women to reduce the risk of acquiring HIV on their own terms.

“What I would like to see as an advocate is increased awareness around the vaginal ring as a significant HIV prevention option. We have waited for the ring for a very long time because it has the capacity to turn the wheels of HIV prevention in very big ways,” Wambui said.

In a landmark decision that put a stamp of approval on the vaginal ring, back in January 2021, the World Health Organisation (WHO) recommended the dapivirine vaginal ring as “a new choice for HIV prevention for women at substantial risk of HIV infection.

No sufficient protection, findings say of HIV vaccine candidate

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Results from Phase 2B of the Imbokodo Study – carried out to test the efficacy and safety of a HIV vaccine candidate among women in five sub-Saharan African countries – shows that the vaccine candidate does not provide sufficient protection against HIV.

The study was conducted among 2,600 plus women in 23 sites across South Africa, Zambia, Zimbabwe, Mozambique and Malawi among women aged 18- 35 years at risk of acquiring HIV.

Discussing the findings at a Media for Environment, Science, Health and Agriculture (MESHA) briefing, Mitchel Warren, Executive Director of AVAC said that the efficacy of the vaccine was found to be at 25 percent.

“There was some hint that the vaccine was working very partially,” he said, “but it is not strong enough to warrant the vaccine continuing in this trial because it is not good enough to get it licensed.”

Also known as the HVTN705/HPX2008, the study involved participants getting four different doses over the first 12 months of their participation.

“The first two were called prime, based on a cold virus, Adenovirus26. Then they received further boost- protein booster- to help stimulate the immune system. Half of the women received this combination, while the other half received four shots of a placebo, that didn’t have any active ingredient,” Warren explained, adding that the women were followed for 24 months after the final shot.

The Imbokodo study found that through 24 months of follow up, 63 of 1,109 participants who received placebo compared to 51 of 1,079 participants who received active vaccine acquired HIV.

In addition, it found that despite the low efficacy, the vaccine was safe and there was no adverse event reported.

There is a parallel trial ongoing dubbed the Mosaico trial being carried out on 3,000 men who have sex with men and transgender individuals in Latin America, US and Europe. The study uses a similar regimen with the same Adenovirus26 platform for the prime vaccine, but using a different form of protein boost.

“It is possible the vaccine could work differently because it is a different boost, addressing a different route of HIV transmission (anal route) or because it is in a different part of the world with different circulating HIV,” Warren said.

According to Warren, the Imbokodo study is a stark reminder of the need to develop a HIV vaccine and the need to scale up prevention products that are already at hand such as the condoms, Oral PrEP, injectable PrEP and vaginal ring among others.

“We have to go all in for the prevention products we have. We have to roll them out with urgency so that people can protect themselves today while we reorient the HIV research agenda,” he said.

The HIV vaccine was being developed in a public-private partnership by Johnson and Johnson in collaboration with National Institutes of Health, the Bill & Melinda Gates Foundation, and the HIV Vaccine Trials Network (HVTN) among others.

“HIV is a unique and complex virus that has long posed unprecedented challenges for vaccine development because of its ability to attack, hijack and evade the human immune system,” Paul Stoffels, Managing Director, Vice Chairman of the Executive Committee and Chief Scientific Officer at Johnson & Johnson said in a statement during the release of the study findings.

“While we are disappointed the vaccine candidate did not provide a sufficient level of protection against HIV infection in the Imbokodo trial, the study will give us important scientific findings in the ongoing pursuit for a vaccine to prevent HIV.

We continue to stand in solidarity with people living with and vulnerable to HIV, and remain committed to furthering our research against this devastating virus,” he added.

Though it has been 37 years of existing with HIV, developing a vaccine for the virus has been an arduous task mainly due to the HIV strain diversity and the immune evasion strategies of the virus.

According to Ronald C. Desrosiers, Professor of Pathology, Vice-Chair for Research, University of Miami, in an article, the development of the vaccine is made difficult by the biological properties of HIV. This includes the ability of the virus to continuously replicate, to generate and tolerate many mutations in its genetic information as well as the ability to shield itself from recognition by antibodies.

Besides the Imbokodo study, there have been five other trials to find a vaccine for HIV. All of them failed since there was no protection against acquisition of the virus or lowering of viral loads for those infected.

Currently, the PrEPVacc studies are ongoing in Africa- Uganda, Tanzania, Mozambique and South Africa- to test efficacy of a two experimental combination of HIV vaccine regimen while also comparing the effectiveness of a new form of oral PrEP (Descovy) against Truvada.

The study which includes both men and women aged 18-40 years at risk of HIV started in 2018 and will end in 2023.