

Three studies hold out hope on reducing infection in young females

Kamcilla Pillay

DURBAN: Three key studies headed by a leading KwaZulu-Natal-based Aids research organisation could help revolutionise the fight against HIV infection in young women.

The Centre for the Aids Programme of Research in South Africa (Caprisa) released its findings yesterday, in time for the first day of the International Aids Conference.

The three studies, said the organisation, provided new information on the high rates of HIV infection in young women in South Africa resulting from the “cycle of HIV transmission” involving age-disparate sex and on two vaginal bacteria – one increasing HIV vulnerability and another undermining the efficacy of tenofovir-based topical pre-exposure prophylaxis.

In most of southern and

eastern Africa, HIV incidence in young women (less than 25 years) continued to remain unacceptably high, said the organisation.

About 380 000 new HIV infections occur in adolescent girls and females aged six to 24 each year.

“Reducing new HIV infections in young women is one of the greatest challenges in southern Africa,” said director Salim Abdool Karim.

“Based on our results, implementing a combination of evidence-based targeted interventions to break the cycle of HIV transmission, while effectively treating bacterial vaginosis, could enhance HIV prevention in women in the highest HIV burden region of the world.”

But, he admitted, the findings, while surprising, still needed to be confirmed due to, among other reasons, the small

sample size.

“These are preliminary findings. We don’t know if we will see something similar in women in Kenya, or Malawi or anywhere else, but the findings still need to be explored.”

In the first study of 9 812 individuals, the genetic code of HIV from each of 1 589 HIV-positive people was analysed to better understand the relentless spread of HIV in a rural and urban community in

South Africa.

It revealed a “cycle of HIV transmission” driven by high rates of new HIV infections in adolescent girls and young women from men who are on average eight years older. Many of these men were also partners of similarly aged women who have HIV prevalence rates exceeding 60 percent.

In a second study investigating the genetic codes of vaginal bacteria of 119 South

African women, those with an overgrowth of *Prevotella bivia* had an almost 13 times higher chance of acquiring HIV than those with low levels or absence of this vaginal bacterium.

In the third study, an analysis of 3 334 genital bacterial proteins from 688 women showed that three out of five women who had a “healthy” lactobacillus dominant vagina showed that tenofovir gel

pre-exposure prophylaxis was effective in preventing HIV, while the women who did not have lactobacillus dominance showed little benefit from the gel.

Follow-up laboratory studies showed that *Gardnerella vaginalis*, which predominates in the vagina when lactobacillus levels are low, absorbs tenofovir, thereby reducing the availability of the drug to prevent HIV infection.