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New studies provide hope in slowing spread of disease

THREE key studies – headed by a leading KwaZulu-Natal Aids research organisation – could help revolutionise the fight against HIV infection in girls and young women.

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

Caprisa said the studies provided new information on 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 women younger than 25 continued to remain unacceptably high, the organisation said.

Approximately 380 000 new HIV infections occur in adolescent girls and young women aged between 16 and 24 every year.

“Reducing new HIV infections in young women is one of the greatest challenges in southern Africa,” according to director Professor 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.”

Karim said that the findings, while surprising, needed to be confirmed due to, among other reasons, the small sample size.

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

Vaginal tract infection increased the risk

explored.”

In the first study, comprising 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 an 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 on average

eight years older.

Many of the men were also partners of similarly aged women who had HIV prevalence rates that exceeded 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 an absence of this vaginal bacterium.

In the third study, an analysis of 3 334 genital bacterial proteins from 688 women showed that the 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.

“Since the *Prevotella* and *Gardnerella* bacteria raise the vaginal pH, a readily available,

quick, simple and cheap test can be used to ascertain which women require treatment for bacterial vaginosis, an imbalance in the vaginal bacteria,” Caprisa said.

“Combined, these interventions could have a significant impact on the spread of HIV in women.”

Responding to the findings, World Health Organisation director-general Dr Margaret Chan said young women in Africa had missed out while others had benefited from the global progress made against Aids.

UNAids executive director Michel Sidibé said: “The new

studies point the way to HIV prevention opportunities that can help rectify this imbalance.

“The new evidence takes us closer to understanding the very high rates of HIV among young women and adolescent girls in southern Africa.”

HIV/Aids non-profit organisation Right to Care chief executive Professor Ian Sanne said the study was interesting and confirmed that any infection or inflammation in the vaginal tract increased the rate of HIV transmission.

“Sexually transmitted infections such as syphilis and gonorrhoea are associated with an even greater increased risk of HIV transmission.

Limitations of local applications were adherence, and even Truvada pill success was dependent on adherence.