

HEALTH

# Promising HIV infants study welcomed

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EXPERTS have welcomed findings that indicate that male infants are more likely to achieve HIV cure/remission after anti-HIV therapy was initiated at birth.

But there has been a call for the research to be done on a broader scale.

The study, which was published in the peer-reviewed journal *Nature Medicine*, included scientists from the Universities of KwaZulu-Natal (UKZN) and Oxford, the Africa Health Research Institute at UKZN, as well as the Ragon Institute of Mass General, and Massachusetts Institute of Technology Harvard in the US.

UKZN said that the observational study took place between 2015 and last

year and included 284 mother-child pairs living with HIV in KZN, the epicentre of HIV prevalence globally.

"The study assessed 284 children from KwaZulu-Natal in whom anti-HIV therapy was initiated at birth following in utero HIV transmission. Sixty-percent of the cohort were female.

"Vertical transmission to male foetuses was 50% less common than to females. Affected males had lower levels of the virus in the blood and to date, in this study, four male infants have been identified who have achieved HIV cure/remission."

Professor Glenda Gray, president and CEO of the South African Medical Research Council (SAMRC), said that this is an important study in the pursuit to understand HIV cure and how both sex and genetic diversity

influence viral dynamics.

"The role of certain hormones may influence this and understanding these roles may help us engineer hormonal environments to help with HIV control or cure," she said.

Professor Nigel Garrett, the head of HIV pathogenesis and vaccine research at the Centre for the Aids Programme of Research in SA (CAPRISA), said these are important findings from a long-standing cohort study of children with HIV in KZN that provides for new ideas for HIV cure research.

"Whether the higher susceptibility of female foetuses to HIV translates into higher proportions of newborn female infants contracting HIV should be further assessed in larger cohorts and programmatic data," Garrett said.

UKZN added that studies have

indicated that female foetuses, like their adult counterparts, typically make stronger immune responses than males.

"The female foetus shares with her mother the same type of innate immune response. Therefore, the female foetus is particularly susceptible to the viruses that have evaded maternal immunity. The male foetus, by contrast, is relatively resistant to these viruses in the mother. The consequence is that, even when transmission does arise in male foetuses, infection may not be sustained."

"An interesting observation of the study indicated that in five sex-discordant twin sets in the cohort, HIV was only acquired in the female twin.

"This is further evidence that in utero transmission of HIV is higher

in female foetuses due to the higher levels of immune activation both antenatally and postnatally, making female foetuses more susceptible to infection in the first two years of life," added UKZN.

Dr Gabriela Cromhout, a lead researcher on the study from UKZN, said that the findings were crucial.

"While this study is highly encouraging in showing that cure/remission can happen in a small subset of children, especially in male children, following very early initiation of therapy, it is clear that other interventions are also necessary, such as broadly neutralising antibody therapy and T-cell vaccines, in order to make the size of impact that is urgently needed in the cure field. Our team is excited to be part of taking this field forward."