

'Highly significant' results of HIV transmission study released

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Positive results from a University of Liverpool led research project that aims to reduce mother to child transmission of HIV have been presented at the Annual international Conference on Retroviruses and Opportunistic Infections (CROI).

[DoIPHIN-2](#), a consortium led by the University, seeks to reduce mother-to-child [transmission](#) of HIV during pregnancy, childbirth, and breastfeeding in [women](#) most at risk of transmitting the virus.

Around 1.6 million women living with HIV become pregnant each year. Without [antiretroviral therapy](#), the rates of mother-to-child transmission of HIV range from 15 to 45 per cent. With current HIV treatment this risk can be reduced to below five per cent, provided treatment is started early in pregnancy.

Considerable advantages

However, a significant number of pregnant women in sub-Saharan Africa present late to maternity services, often in the last three months of pregnancy where current first-line therapy does not have sufficient time to act to prevent infant transmission. This late initiation of HIV treatment is associated with a seven-fold higher risk of infant transmission, and a doubling of infant mortality in the first year of life.

A new drug, Dolutegravir (DTG), has the ability to act much more quickly than current recommended therapy. DTG rapidly reduces the amount of HIV in blood in the first three months of starting treatment, and thus potentially has considerable advantages in preventing infant transmission. However, the safety and efficacy of DTG in [pregnant women](#) is unknown, and this lack of knowledge is the major barrier to its widespread use in pregnancy.

DoIPHIN-2 implemented a large clinical trial in Uganda and South Africa, where late-presenting

mothers were randomised to receive a DTG-containing regimen compared with standard-of-care treatment.

Results

The researchers found that 74 percent of women who received the regimen containing DTG in their third trimester had undetectable viral load when they gave birth. Only 43 percent of the women who received the older efavirenz-based combinations reached that benchmark.

Professor Saye Khoo, Principal Investigator, University of Liverpool, said: "Mother-to-child transmission of HIV is preventable, and we have a duty to ensure the burden of HIV is not handed down across generations. Over 100,000 babies acquired HIV last year worldwide.

"We have both a moral imperative to make new treatments available and affordable. These results highlight the highly significant difference in how fast each drug drove the virus out of the blood. This is extremely important as many women in Africa find out they are infected late in pregnancy, and it can be hard to prevent them from infecting their babies.

"There were some adverse outcomes during the trial though we do not believe they were related to the drugs that were used but rather to the poor overall prognosis. And, it's this particular group of women who present later on in [pregnancy](#) tend to engage poorly with health services, tend to have poor access to [treatment](#), tends to come from a different demographic, and other studies have consistently shown that this group of women are very vulnerable to poor outcomes."

While all women enrolled to the trial have now given birth, the study is ongoing and women and children will be followed up for 18 months following delivery.

Provided by University of Liverpool

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