HIV infection is transmitted from mother to foetus, and 28-30% of babies, born to (untreated) HIV positive mothers, are infected with HIV. Since the risk of transmission to the foetus is directly proportional to the viral load in the mother’s blood, any reduction in viral load could improve the chance of the baby to start life without that deadly infection. This reduction can be achieved by antiretroviral drugs (ARV). However, these could have adverse effects on the foetus, especially during the first trimester. Due to the very high exposure to the mother’s blood during labour and birth, these are the most critical stages to reduce the risk of exposure.

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HIV technology, Immunology, has been developed, which enables detection of antibodies even during the WP (Fig 1). This is achieved by pre-incubation of the blood sample, in a SMARTTube for stimulation of antibody production. In a study in Kenya, 20 pregnant women were treated for HIV with and without the SMARTTube step. Eight were seropositive, yet, among the seronegative women, there were an additional five who were in the WP, and their HIV infection was detected only after pretreatment of sample with SMARTTube. These women seroconverted within 3-6 months (4/5), too late for ARV to protect the babies born HIV infected. Today, the SMARTTube has the CE Mark and can be used to detect HIV infected pregnant women even during the WP.

Misdiagnosis of HIV infection due to the WP contributes daily to the spread of the epidemic in the adult population. A missed infection in a pregnant mother is a missed chance to save a baby. Bridging the gap of the HIV WP in this population should be of top priority. Early and complete detection of HIV infections among future mothers is a critical key to curtailing the epidemic and saving future lives.

Fig 1: Clinical trials summary  
Fig 2: Detecting HIV infected pregnant women missed by current serology due to the window period