

**Editorial**

## **Elimination of mother-to-child transmission of human immunodeficiency virus and syphilis in Sri Lanka**

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Sexually transmitted infections (STI) are mainly transmitted through unprotected sexual exposures. Transmission can also take place through blood and body fluids as well as through mother to child transmission (MTCT)<sup>1</sup>. Syphilis and human immunodeficiency virus (HIV) are STIs causing increased morbidity and mortality in children as a result of MTCT<sup>1</sup>. The similarity of the interventions needed to prevent transmission of HIV and syphilis in pregnancy led to an integrated approach to the elimination of mother to child transmission (EMTCT) of both infections<sup>1</sup>. Sri Lanka has a HIV seroprevalence rate of less than 0.1% in the general population. Seroprevalence of syphilis among the antenatal clinic (ANC) population has remained at less than 0.1% for last two decades<sup>1</sup>.

MTCT of HIV occurs when a HIV positive mother passes the virus to her child during pregnancy, labour, delivery or while breast feeding<sup>1</sup>. Timely administration of antiretroviral treatment to HIV positive pregnant mothers significantly reduces the risk of HIV transmission to the baby. In the absence of intervention, the transmission rate is 25-45%<sup>1</sup>. Nearly all HIV infections due to MTCT can be prevented by the use of antiretroviral drugs, safe delivery practices and safe infant feeding practices<sup>1</sup>.

If a pregnant woman has untreated syphilis, the infection can be transmitted to the fetus causing adverse pregnancy outcomes, including congenital syphilis. Adverse pregnancy outcomes may occur in up to 80% of pregnant women with untreated early syphilis including still birth, perinatal death and neonatal infection<sup>1</sup>. The adverse pregnancy outcomes due to syphilis too can be prevented by providing services during pregnancy with early detection and provision of adequate treatment<sup>1</sup>. The rationale for the elimination of MTCT of HIV and syphilis is that the dual elimination will help to improve a broad range of maternal and child health outcomes<sup>1</sup>.

Countries can achieve dramatic reduction in new paediatric HIV infections through a comprehensive approach to prevention and treatment. The approach has four key prongs<sup>1</sup>:

1. Primary prevention of HIV among women of childbearing age.

2. Prevention of unintended pregnancies among women living with HIV.
3. Prevention of HIV transmission from a woman living with HIV to her infant.
4. Provision of appropriate treatment, care and support to women living with HIV and their children and families.

In 2007, the World Health Organisation (WHO) outlined a similar comprehensive strategy for the global elimination of congenital syphilis (ECS). The strategy consists of promoting four pillars<sup>1</sup>.

1. Ensure advocacy and sustained political commitment
2. Increase access to, and quality of, maternal and newborn health services
3. Screen and treat pregnant woman and partners for syphilis
4. Establish surveillance, monitoring and evaluation systems

In Sri Lanka, measures to prevent mother to child transmission of HIV were initiated in early 2002 with the introduction of antiretroviral treatment for prevention of mother to child transmission (PMTCT). Until 2012, the screening services to detect HIV among pregnant women in Sri Lanka was limited to a few centres with a coverage of 5.6%<sup>1</sup>.

When the anti-venereal disease (VD) campaign was formally established in 1952, screening of pregnant mothers for syphilis was identified as a specific objective<sup>1</sup>. Based on the success of the prevention of MTCT of syphilis programme, in 2009 the programme was revived as Elimination of congenital syphilis (ECS) programme<sup>1</sup>. By the end of 2017, island-wide syphilis testing coverage was 98%.

In the year 2013, both the ECS programme and the PMTCT of HIV programme were combined to a single programme under the name "Elimination of MTCT of HIV and syphilis programme". Links between maternal and child health (MCH) services and sexually transmitted disease (STD) services have strengthened over the years facilitating smooth functioning of the programme<sup>1</sup>. The National STD/AIDS Control Programme (NSACP) of the Ministry of Health is the main government

organization which coordinates the national response to sexually transmitted infections including HIV/AIDS in Sri Lanka<sup>1</sup>. The Family Health Bureau (FHB), which is responsible for MCH services, has played an active role in initiating multiple programmes in partnership with NSACP. These include EMTCT of syphilis and HIV. EMTCT of syphilis and HIV programme is fully funded by the government of Sri Lanka. This ensures sustainability of the programme. WHO and UNICEF supported the EMTCT of syphilis and HIV programme providing technical support as well as funding and logistics<sup>1</sup>.

The term “validation” is used to attest that a country has successfully met criteria for EMTCT of HIV and/or syphilis at a specific point in time. Validation can be at the country, regional or global level<sup>1</sup>. Typically, when a disease or an infection incidence falls to zero within a geographical area, it is considered “eliminated”. However, currently, the minimum EMTCT impact targets as outlined by the WHO are<sup>1</sup>:

- Less than 50 new paediatric HIV infections per 100,000 live births
- HIV transmission rate of less than 5%
- Less than 50 cases of congenital syphilis per 100,000 live births

Additionally, to accomplish EMTCT of HIV and syphilis, there are five process targets that need to be met<sup>1</sup>:

- Antenatal care coverage (at least one visit) of more than or equal to 95%
- Coverage of HIV testing of pregnant women of more than or equal to 95%
- Antiretroviral therapy of HIV positive pregnant women of more than or equal to 95%
- Coverage of syphilis testing of pregnant women of more than or equal to 95%
- Treatment of syphilis-seropositive pregnant women of more than or equal to 95%

On 30<sup>th</sup> November, 2019, the WHO certified Sri Lanka, as a country that has eliminated MTCT of HIV and syphilis<sup>2</sup>. Sri Lanka has not reported any case of MTCT of HIV since 2017 and its congenital syphilis cases have consistently been two per 100,000 live births, much less than the fifty per 100,000 live births needed for elimination certification, as per the findings of the Global Validation Advisory Committee<sup>3</sup>. Validated for EMTCT of HIV and congenital syphilis in November 2019, Sri Lanka is the third country in WHO South-East Asia Region to achieve this after Thailand in June 2016 and Maldives in July 2019<sup>3</sup>.

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The author declares that there are no conflicts of interest  
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