

## Editorial

# Prevention of mother-to-child transmission of human immunodeficiency virus—tremendous progress despite remaining challenges

The situation regarding human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) has been improving over the years thanks to the discoveries of, and improved access to, antiretroviral therapy (ART) and concerted public health measures [1]. Surveillance data over the past 20 years have suggested a high burden associated with mothers and infants living in settings with limited resources [2, 3]. Thailand is the first country in Asia to meet the World Health Organization (WHO) targets of a mother-to-child transmission (MTCT) rate of <2% [4]. The use of antiretroviral agents, together with avoiding breastfeeding and appropriate easy access to comprehensive HIV and pregnancy care services, have been shown to substantially reduce MTCT of HIV in resource-limited settings [2]. ART reduction in viral load detected in maternal plasma and breast milk followed by improved maternal immunologic status and clinical stage reduces the risk of MTCT of HIV [5, 6]. This correlates with the finding that the majority of all new pediatric HIV cases result from perinatal transmission of HIV, which can occur during pregnancy in utero as a result of the breakdown of placental integrity, infection, or placental inflammation [7, 8]. Transmission can also occur at labor/delivery or intrapartum [9], and postdelivery through breastfeeding because of the presence of virus in breast milk [6].

Although it has been documented beyond doubt that ART is the cornerstone of strategies to prevent MTCT of HIV, additional measures are important. A collaborative study in Thailand has demonstrated that it is possible to reduce MTCT to a rate below the 2% WHO target [4]. In this volume, Lolekha et al. have reviewed the Thai national guidelines for reducing the MTCT rate to <1% in Thailand by 2020 [10]. The guidelines have been a strong collaborative effect between the U.S. Centers for Disease Control and

Prevention, Division of Global HIV/AIDS, medical school departments (pediatrics, obstetrics and gynecology, and medicine), the Thai Red Cross AIDS Research Center, and the Department of Health, Ministry of Public Health. The guidelines include promoting couples HIV testing and counseling to identify HIV discordant couples and provide guidance on how to manage HIV serodiscordant couples. The guidelines attempt to identify pregnant women with a high risk of MTCT by increasing viral load monitoring before delivery plus increasing ART for mothers with high viral load and late presenters. The guidelines emphasize the importance of good ART adherence, effective lifelong ART, and retention to care by provision of psychosocial support and counseling for pregnant women and their family. Infants born to HIV-infected mothers should be managed according to the degree of risk for MTCT (WHO disease staging) through antenatal clinic and prevent MTCT visits during pregnancy to replenish drug supplies, monitor toxicity, and provide routine pregnancy care. Infant delivery should be performed by skilled birth attendants, if possible at a health facility. Exclusive formula feeding and infant antiretrovirals are recommended for all HIV-exposed infants. Follow-up services postpartum should be encouraged.

Other measures to prevent MTCT are required including referral and long-term connection to HIV care and treatment for the mother, provision of counseling for and long-term monitoring of adherence to ART by the mother to prevent MTCT and maintain maternal health, routine monitoring of child growth, routine immunization, and ongoing evaluation of infants for HIV infection status, including ultimate HIV antibody screening after weaning. Children found to be HIV-infected should be immediately referred to HIV care and treatment services to initiate ART [11].

To meet the remaining challenges for reducing MTCT, a collaborative effort demonstrated by the relevant organizations in Thailand will be essential not only at the development of the guidelines, but also during the implementation, monitoring, and evaluation stages.

## References

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