VIRTUAL WORKSHOP ON

POSTNATAL PROPHYLAXIS TO REACH ELIMINATION OF HIV VERTICAL TRANSMISSION: OPTIMIZING RESEARCH AND ACCELERATING ACCESS TO INNOVATION

MEETING REPORT

11 MAY–10 DECEMBER 2021

World Health Organization

IMPAACT
International Maternal Pediatric Adolescent AIDS Clinical Trials Network

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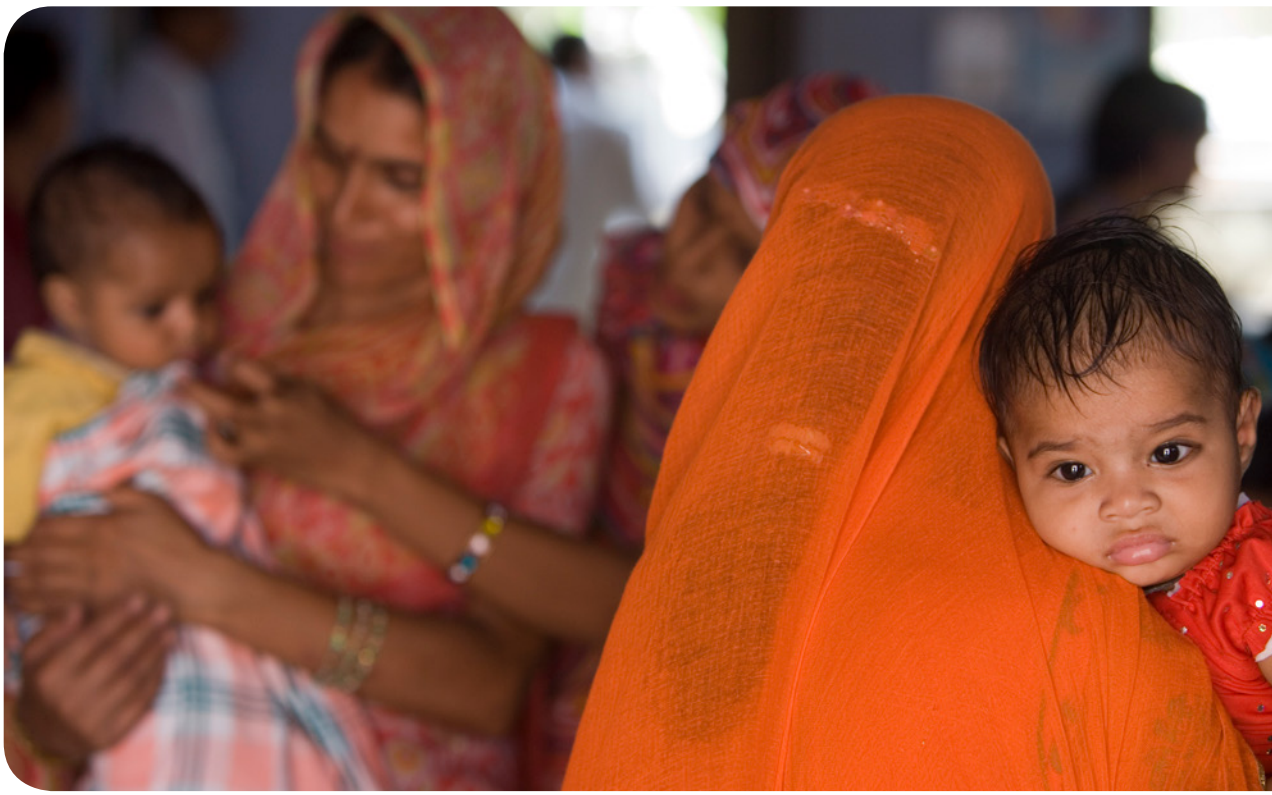

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1. BACKGROUND

The global community has made exceptional progress in preventing the vertical transmission of HIV, halving the number children newly infected and rapidly expanding access to antiretroviral (ARV) drugs for pregnant women living with HIV *(1)*. Although only a few countries have validated the elimination of vertical transmission, several others are developing a vision and a path to a future in which no child is born with HIV *(2)*.

Despite decades of progress in reducing the rates of vertical transmission, some children continue to acquire HIV. Even with expanded treatment coverage for women with HIV, perinatal transmission continues to occur among infants born to women with HIV diagnosed in pregnancy or at delivery. Infants are also at risk of acquiring HIV during breastfeeding to viraemic women with HIV; roughly half of all children newly infected acquire HIV during breastfeeding. Although countries continue to make progress, challenges remain in retaining women living with HIV in healthcare services and on effective antiretroviral therapy (ART) throughout pregnancy and the breastfeeding period and in detecting and preventing new HIV infections among women during pregnancy and breastfeeding.

Guidelines on infant feeding in relation to HIV reaffirm the position of World Health Organization (WHO) that the best way to prevent transmission in the postpartum period and optimize infant survival is to ensure that mothers living with HIV are diagnosed, receive effective treatment and are able to breastfeed their infants for up to two years, with the infant being exclusively breastfed in the first six months of life. If a mother receiving ART maintains suppressed viral loads, the risk of transmitting HIV through breast milk is very low, and infant prophylaxis accordingly confers minimal additional benefit beyond 4–6 weeks of life. However, some women with HIV face new challenges in adherence while breastfeeding, presenting periods of risk for transmission that are difficult to foresee.

WHO recommends enhanced postnatal prophylaxis for infants who are assessed to be at increased risk of HIV transmission at the time of birth and is being implemented in several countries. However, challenges persist with identifying infants at high risk and providing enhanced prophylaxis with existing formulations. Given the uncertainty about best practices, countries have adopted a variety of different approaches to enhanced postnatal prophylaxis: enhanced postnatal prophylaxis for all breastfeeding HIV-exposed infants; enhanced postnatal prophylaxis for high-risk infants identified primarily based on maternal ART duration and, when available, maternal viral load close to delivery; enhanced postnatal prophylaxis for at least 12 weeks of prophylaxis, usually AZT + NVP for the first six weeks followed by NVP alone; extended enhanced postnatal prophylaxis over the entire breastfeeding period when viral suppression is not achieved or maintained; and triple prophylaxis with a fixed-dose combination of AZT + 3TC + NVP to address the challenges of procuring syrups.

Overall, options for more effective regimens to prevent HIV infection among infants have been promoted *(3)*, and several novel interventions are being introduced to allow for greater access to earlier treatment. However, the use of optimal ARV drug formulations for preventing and treating HIV infection among newborns and young infants remains a significant challenge. Limited availability of appropriate formulations and dosing schedules that account for prematurity and low birth weight continue to result in unavoidable complexity with which healthcare workers and families struggle.

The scientific community has not identified a validated surrogate for postnatal transmission risk; consequently, trials proving efficacy to reduce the risk of children acquiring HIV are required. The cost and logistical challenges of developing such large clinical trials have effectively blocked the development and introduction of better prevention regimens for children since the early investigations of NVP and AZT among newborns and breastfeeding infants. Newer drugs are more potent, and novel technologies offer the potential to surmount many barriers to adherence and implementation of current postnatal prophylaxis. Further, innovation in adaptive study designs and mixed methods offer new ways to efficiently study infrequent outcomes such as postnatal transmission. For this reason, IMPAACT and WHO held a workshop to achieve consensus on the approach to investigating innovative strategies to prevent HIV vertical transmission perinatally and in the postnatal period and establish the next steps for implementing such studies.

2. OBJECTIVES

The overall objective was to reach consensus on the approach to investigate innovative strategies to prevent HIV vertical transmission perinatally and in the postnatal period and establish the next steps for implementing such studies.

Specific objectives included:

- to review the rationale to optimize postnatal prophylaxis in the evolving maternal treatment landscape;
- to identify scenarios to inform the development of innovative postnatal prophylaxis strategies and regimens;
- to define the target drug characteristics and candidates to be used in postnatal prophylaxis; and
- to reach consensus on an optimal research approach to investigate alternative postnatal prophylaxis strategies.

3. WORKSHOP FORMAT AND METHODS

The virtual workshop comprised four meetings held over eight months from May to December 2021 (Fig. 1). The workshop brought together academic researchers, clinical experts, women living with HIV, regulators, industry representatives, HIV programme managers, funders and other key stakeholders involved in delivering and studying programmes to prevent the vertical transmission of HIV.

The process was supported by a detailed desk review of current postnatal prophylaxis policies in countries, the perspective of community of women living with HIV in collaboration with mothers2mothers (m2m), pipeline analysis and targeted review of innovative methods for study design. Consensus was reached via plenary sessions and working group discussions.

FIGURE 1: WORKSHOP STRUCTURE

Optimizing postnatal prophylaxis to move out: Refocusing the research agenda and advancing product development