

# Antiretroviral regimens for preventing HIV infection in infants

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Several initiatives have been launched to reinforce countries' efforts to scale up programmes for the prevention of mother-to-child transmission (PMTCT) of human immunodeficiency virus (HIV) infection, though the shift from donor-funded projects and limited initiatives towards nationwide programmes is very slow. Coverage of PMTCT programmes and uptake of services provided through them are still very low worldwide (1).

Provision of antiretroviral (ARV) drugs to mothers and infants is one of the key interventions for the prevention of HIV infection in infants. Various short-course ARV regimens have been shown to reduce significantly HIV peripartum transmission in both breastfeeding and non-breastfeeding populations in resource-constrained settings (2–5). Pilot programmes have been implemented to offer these interventions to a large number of women and infants, with varying degrees of success. Concerns have been raised, however, about their mid-term and long-term effectiveness at population level. In sub-Saharan Africa where breastfeeding is the norm, their overall efficacy is diminished, but not outweighed, over time by postnatal transmission through breastfeeding (6). So far, single-dose nevirapine (NVP) has been considered to be the most cost-effective regimen in settings where antenatal care coverage is low and where pregnant women do not present until late in pregnancy. Recent evidence strongly supports the use of combination regimens, especially short-course zidovudine (AZT) and single-dose NVP, to achieve a more dramatic reduction in perinatal transmission of HIV (7, 8). That combination regimen is now recommended as one of the simplest, highly efficacious regimens, but its large-scale introduction has been problematic (9, 10).

The article in this issue by David Coetzee et al. (pp. 489–494) focuses

mainly on discussing the uptake of ARV prophylaxis for PMTCT and postpartum follow-up of children. In settings where antenatal care attendance is low and where women are first seen late in pregnancy, Coetzee et al. have demonstrated that a short-course regimen of AZT or combining AZT and single-dose NVP is feasible and effective within routine health-care services in resource-constrained settings. They mention that the non-response rate of 19% and the lack of some information might have led to some level of selection and information bias, but 77% of women covered is still impressive compared with findings from previous studies.

Coetzee et al. highlight one of the major bottlenecks for the delivery of PMTCT programmes in resource-constrained settings: the lack of good postpartum follow-up services for mothers and children, including early diagnosis of HIV infection in infants. In their study, 30–40% of children were lost to follow-up by the age of 9–18 months. In general, weak postpartum follow-up of women and children can be explained by the lack of practical guidelines on the type of services to be offered, poor or nonexistent referral procedures and tools, and the lack of appropriate skills in health service providers. In this study, HIV testing by polymerase chain reaction (PCR) is routinely offered to infants at six weeks of age to determine their infection status. Although few developing countries could afford the use of PCR for such early diagnosis, this study suggests that relatively well-functioning health-care systems could increase acceptance and uptake of HIV testing and counselling, ARV prophylaxis, infant feeding counselling and support, and early diagnosis of HIV infection in infants. As many as 50% of women in this study were referred to higher levels, reflecting good, well-functioning referral procedures. More information on the reasons for referrals

and their outcomes could have been useful for determining any additional package of services needed for HIV-infected pregnant women in that setting.

Programmes for PMTCT are multi-faceted interventions, of which the ARV regimen is but one component. For the prevention of HIV infection in infants and young children, WHO recommends a comprehensive approach that includes: primary prevention of HIV, focusing on childbearing women; prevention of unintended pregnancies among HIV-infected women; prevention of HIV transmission from HIV-infected women to their children; and provision of care and treatment, including ARV therapies and support to HIV-infected women, their children and families (11). Specific interventions include HIV testing and counselling, prevention and treatment of malaria, tuberculosis and opportunistic infections, safer delivery practices, family planning, and infant feeding counselling and support.

PMTCT programmes are indisputably the main entry point to HIV-related care and treatment for millions of women and children infected with HIV. It is imperative that all HIV-infected women and their children who require ARV treatment have access to it. Finally, given that the ultimate goal of PMTCT programmes is to improve maternal and child health and survival, their implementation should be taken as an opportunity to improve quality and increase uptake of maternal and child health services, including family planning. PMTCT programmes should be implemented as an integral component of such services. ■

## References

Web version only, available at: <http://www.who.int/bulletin>

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