

RIO DE JANEIRO, Aug 29, 2011 (IPS) - A scientific alliance in which developing countries are playing a key role has taken on the challenge of producing paediatric AIDS drugs, an area that is no longer a priority for pharmaceutical companies because mother-to-child transmission of HIV has virtually been eliminated in the industrialised world.

The [Drugs for Neglected Diseases Initiative \(DNDi\)](#), an international non-profit drug research and development organisation, launched the programme to develop antiretroviral (ARV) drugs adapted for children.

The programme will focus exclusively on developing child-adapted formulations for children under three, the most neglected segment in terms of availability of ARVs. The DNDi hopes to have new paediatric-specific medicines available between 2014 and 2016.

DNDi Executive Director Dr. Bernard Pécoul told IPS from Geneva that because mother-to-child HIV transmission has practically been eliminated in developed countries due to effective prevention, "there is little incentive for pharmaceutical companies to develop children's formulas" of ARVs.

The great majority of children living with HIV are in poor or developing countries, and their families cannot afford costly medications, added the head of the DNDi, which was created in 2003 by public-sector research organisations from four developing countries and France; Médecins Sans Frontières (MSF); and the UNDP/World Bank/WHO's Special Programme for Research and Training in Tropical Diseases, which acts as a permanent observer.

The public sector institutions are the [Oswaldo Cruz Foundation](#) from Brazil, the [Indian Council for Medical Research](#), the [Kenya Medical Research Institute](#), the Ministry of Health of Malaysia, and France's Pasteur Institute.

Of the more than 2.5 million children under the age of 15 currently living with HIV around the world, 92 percent are in [sub-Saharan Africa](#), according to [WHO \(World Health Organization\)](#).

But only 28 percent of the children in urgent need of ARVs have access to the treatment, says [UNAIDS \(Joint United Nations Programme on HIV/AIDS\)](#).

Without treatment, one-third of them die in the first year of life, half of them before the age of two, and 80 percent before the age of five.

Although WHO recommends immediate treatment for children under two, the safety and correct dosing of key ARVs have not been established in very young children, Pécoul said.

"This is where DNDi can play a crucial role," Leena Menghaney, a lawyer working with MSF in India, told IPS.

In India, a country of 1.1 billion people, 403,567 adults and 25,071 children were living with HIV as of June.

"DNDi's entry into the field of paediatric drug development was after an R&D needs assessment which showed how children living with HIV/AIDS are a neglected population. In addition, in the developing world, patents on AIDS medicines are hampering the creation of paediatric versions," she added.

Menghaney described children living with HIV/AIDS as an "afterthought" for pharmaceutical companies.

To illustrate the problem, Pécoul cited the use, in poor areas, of a fixed-dose combination of stavudine (d4T), lamivudine (3TC) and nevirapine (NVP).

The first, d4T, is no longer preferred due to its toxicity, and NVP is not recommended in children who were exposed to it in the womb, during treatment to prevent mother-to-child transmission, since the virus could have developed resistance to the medication.

The director of DNDi also cited other problems, like the "unpalatable taste" of many ARVs, which make it difficult for caregivers to administer them to young children.

Determining and administering weight-adjusted doses of liquid ARVs for children is a complex task

Another difficulty faced by doctors is managing interactions between anti-tuberculosis medications and ARVs.

Tuberculosis and HIV co-infection rates are high in [Africa](#) – up to 80 percent in some countries – and tuberculosis is one of the main causes of death among children and adults living with HIV, said Pécoul.

These problems are all too familiar to Janice Wanja, a nurse at Afya Clinic in the heart of the Dandora slum on the east side of Nairobi.

There are other challenges in Kenya too. For instance, the stigma surrounding HIV [in that country](#) has meant that a majority of parents and guardians of HIV-positive children have not told them their status.

"Most children are not told their status. This makes them take their medication less seriously," Wanja explained.

The WHO indicates that "informing older children of their diagnosis of HIV improves

adherence" to antiretroviral treatment.

Government statistics estimate that of the 1.4 million people living with HIV in Kenya, a country of 41 million people, 180,000 are children. But only 40,000 – a mere 22 percent – have access to ARVs.

And 90 percent of HIV infections in children in Kenya are from mother-to-child transmission.

Another challenge in treating HIV-positive children is malnutrition, a problem that has gotten worse in recent months in Kenya and other countries facing drought and food shortages in East Africa.

"For children who are malnourished, the nutrition status may discourage the health care worker from providing drugs to the child," Dr. Lucy Matu from the Elizabeth Glaser Paediatric AIDS Foundation explained to IPS.

In Brazil, another of the DNDi partner countries, which has a population of 192 million, a total of 592,914 cases of full-blown AIDS were reported between 1980 and June 2010. In 2009, 38,538 new cases were reported.

The number of HIV/AIDS cases among children under five dropped 50 percent in a decade, from 954 in 1999 to 468 in 2010.

An estimated 0.4 percent of pregnant women in Brazil are living with HIV, and an average of 12,456 newborns are exposed to the virus every year. But thanks to prevention measures, only 6.8 percent of them are infected with HIV, according to the latest epidemiological bulletin, which cites figures dating back to 2004.

And the authorities report that in areas where all mother-to-child transmission prevention measures were followed, the rate fell to just two percent in 2009.

The DNDi programme is working to come up with a new first-line paediatric HIV therapy that is easy to administer and better tolerated by children than current drugs, as well as heat stable (important for tropical climates), easily dispersible, and dosed once daily or less.

It must also carry minimal risk for developing resistance and be suitable for infants and very young children, with minimum requirements for weight adjustments. Finally, any new formulations must be compatible with anti-tuberculosis drugs, and, importantly, affordable.

The DNDi has already developed medication for neglected diseases like sleeping sickness, leishmaniasis, Chagas' disease and malaria.

* With reporting by Miriam Gathigah in Nairobi and Ranjit Devraj in New Delhi. (END)

Source: [IPS](#)