Editorial

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In this issue of The Sri Lanka Journal of Venereology, two articles focus the role of antiretroviral treatment (ART) to prevent transmission of human immunodeficiency virus (HIV) from mother to child and as treatment for persons infected with HIV. ART suppresses HIV viremia (or "viral load") to undetectable levels in the plasma of a large proportion of individuals infected with HIV and has thereby greatly reduced morbidity and mortality related to HIV.

Globally, an estimated 420,000 children were infected with HIV in 2007 alone, approximately 17% of all new infections [1]. The vast majority of pediatric HIV infections occur through mother to child transmission, and use of combination antiretroviral regimens can reduce HIV transmission rates to as low as 2% in the absence of breast feeding [2,3,4].

A comprehensive approach to the prevention of HIV infection in infants and young children consists of four elements or prongs: preventing new infections in women of child bearing age (element 1), preventing unwanted pregnancies in HIV-infected women (element 2), preventing transmission of HIV from infected pregnant women to their infants (element 3) and providing treatment, care and support to infected women, their infants and their families (element 4). Most countries have traditionally focused on element 3 and to a lesser extent on element 4, for the prevention of vertical transmission. In Sri Lanka, the low level HIV epidemic may lend to the adoption of integrated health approaches for the prevention of HIV infections in infants and children. A more systematic integration of sexual and reproductive health services with prevention of mother to child transmission (PMTCT) services and more integration of pediatric and maternal HIV care in maternal and child health settings to avert new infections in women of child bearing age (element 1) and prevent unwanted pregnancies in HIV-infected women (element 2) appear viable approaches. Educating young people on these issues is an essential preventive intervention, among others, that should be the overriding priority of the National STD/AIDS Control Programme (NSACP) to ensure that the HIV incidence remains low in Sri Lanka.

The NSACP began to provide antiretroviral drugs to HIV infected persons who were medically eligible in November 2004. By the end of 2008, 146 persons (138 adults and 8 children) were receiving ART free of charge from the NSACP. Estimates of need and coverage are derived from mathematical models. According to estimates derived from the work book method, the cumulative number of HIV-infected persons requiring ART in Sri Lanka for 2008 amounts to **837** [5]. However, it has been shown that in situations of low HIV prevalence, mathematical models tend to give very high estimates for ART needs. Taking into consideration the available data, the NSACP considers

that a more realistic scenario of ART needs would be around 50 additional persons requiring ART each year compared to the previous year[5].

In the majority of cases when ART is accessible and used properly, HIV is a manageable chronic condition. Clearly, there is significant benefit to the individual when ART is provided within current standard treatment guidelines. As Sri Lanka's ART programme matures, some proportion of individuals will develop failure to first-line antiretroviral regimens. First-line regimen consists of one non-nucleoside reverse transcriptase inhibitor (NNRTI) supported by two nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs). A second-line regimen has to be used when the first regimen fails. Selection of second-line drugs is based primarily on availability and affordability. Given the limited number of second-line antiretroviral drugs available in Sri Lanka, minimizing HIV drug resistance (HIV DR) becomes especially important. The ability of HIV to mutate and reproduce itself in the presence of antiretroviral drugs is called HIV DR.

The World Health Organization (WHO) recommends that countries monitor 'early warning indicators' for HIV DR[6]. Early earning indicators consist of information collected routinely in medical and pharmacy records to monitor the functioning of ART sites for factors potentially associated with HIV DR prevention or emergence. The extent to which ART is prescribed according to national guidelines; the percentage of patients still on first-line ART regimen and lost to follow-up, respectively, 12 months after starting ART; the percentage of patients picking up antiretroviral drugs before their previous prescription run out and keeping appointments regularly, respectively; and antiretroviral drug supply continuity at the site are important early warning indicators that the national programme should monitor.

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