Changing evidence on HIV treatment and prevention strategies: implications and advice for healthcare workers and National Treatment Programs in Asia

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The articles in this special HIV issue of Asian Biomedicine focus on a series of important issues in resource limited settings in Thailand and across the rest of Asia where approximately 4.7 million people were living with HIV in 2008 [1]. It is comparatively only recently that many countries in Asia have been able to rapidly scale up access to antiretroviral agents through National Treatment Programmes. Many of the National Treatment Guidelines that have been developed in the process were based on the public health approach mandated by WHO in 2003 as part of The Three by Five Initiative [2], designed for easy adoption by countries, irrespective of limited resources. Although Thai National Treatment guidelines had been developed, publication first occurred in 2008 [3]. Since this time there have been major shifts in thinking about when to start treatment, increased availability of drugs, and changes in the recommendations for first line treatment. Initially, WHO recommended stavudine (d4T) as a component of first-line regimens because of its efficacy and tolerability, low cost and limited need for laboratory monitoring [2]. The dosing was weight based, with patients <60 kg having a dose of 30mg twice daily, and heavier patients receiving 40mg twice daily. However, as fixed dose combinations of stavudine came into wide use in resource-limited settings, a high rate of lipoatrophy, and a concern of peripheral neuropathy and lactic acidosis quickly became apparent, as had previously been seen in the West. After a systematic review demonstrated that lower doses could maintain efficacy and reduce the burden of adverse effects [4], WHO changed guidelines to recommend stavudine dosed at 30 mg [5]. Nevertheless, adverse events particularly lipodystrophy with 30mg remain a problem. In the November 2009 WHO guidelines, there was a recommendation to phase out the use of stavudine and replace it with alternatives that are less toxic [6]. The speed at which this can be accommodated by National Treatment Programs, in countries where large numbers of people require treatment, is unknown. In this issue of Asian Biomedicine, Andrew Hill reviews the history of stavudine use in HIV medicine, and discusses the economics of its use compared to other antiretroviral therapy (ARV) [7]. Dr. Hill also discusses the evidence for maintained efficacy and reduced adverse effects with 20 mg doses of stavudine in patients less than 60 kg, argues that a subsequent randomized trial of 30 mg or 20 mg stavudine vs tenofovir might show comparable adverse event rates, and makes recommendations for the use of stavudine in health systems in resource limited settings.

Recent recommendations in the West [8-10] and by WHO [6] have seen the thresholds for initiating treatment increased because of studies showing benefits in offsetting morbidity and mortality. This move has significant financial implications for healthcare systems, although it is likely to some extent that costs will be offset in other areas. The English translations of sections of the Thai Pediatric [11] and Adult and Adolescent [12] updated 2010 Thai guidelines moved to these increased CD4 thresholds for starting treatment, and changed the recommendations for first-line treatment options. These translations of relevant sections of the Thai Guidelines give a comprehensive summary of Thai
treatment recommendations for HIV positive patients, including monitoring, and HIV management in the context of other complicating factors (for example, tuberculosis co-infection) and will be important for sharing relevant policy with regional neighbors. Thai guidelines for Prevention of Mother to Child Transmission of HIV updated 2010 [13] similarly reflect the best evidence available internationally.

As National Treatment Programs accumulate more patients who have been on treatment for longer periods, it is inevitable that some patients will begin to fail first-line treatment options. Improved availability of individual drugs and drug classes in Asia has meant that there are increasing options for selection of second-line regimens. In the next issue of Asian Biomedicine, Julian Elliott will discuss the options for selection of second-line regimens, including suggestions for regimen selection based on a patients’ previous treatment and resistance mutations [14].

Evidence of the uptake of good and affordable treatment regimens across Asia is the increasing numbers of healthy patients on treatment who have good quality of life that can be expected to continue for many years to come. Therefore, health care workers are being asked more frequently about sexual health and reproductive health issues. In particular, healthcare clients want advice on safe sexual practices with their positive or sero-discordant partners, information about protection and transmission of sexually transmitted diseases, and advice about contraception. The article by Landolt et al. will review these issues, providing a review of the current state of evidence, and a wealth of practical advice for healthcare workers to share with their patients [15].

Despite advances in drug treatment and rapid scale up that have seen millions of patients treated for HIV, the number of new infections continues to increase. Behavioral approaches to prevention have to date been the only effective strategies. Celantano et al. will discuss recent evidence on the usefulness of biomedical prevention strategies that could be used together with behavioural prevention to curb high infection rates [16]. Of these biomedical approaches, male circumcision has been shown in some situations to provide real benefits in preventing transmission. Vaccination is the other method that could curb the number of new infections if a safe and effective vaccine could be developed. However, the advances made against other viral diseases by vaccination in the past Century have not been seen with HIV. Jean-Louis Excler will provide an update on the immunology of vaccines in the fight against HIV, discuss recent trial results, and provide some ideas on the way forward given the current state of knowledge [17]. Management of HIV continues to provide hope and exciting challenges for the worldwide community, and some unique challenges within Asia. These issues, discussed in Asian Biomedicine will, provide a useful resource for patients and healthcare workers alike.

References
10. Working Group on Antiretroviral Therapy and


