Presidential Address 2013

HIV care; challenges for Sri Lanka

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The Chief Guest, Dr Sujatha Mananwatta, Consultant Microbiologist

Guest of Honour Dr David Rowen, Consultant Genitourinary Physician, Royal South Hants’ Hospital, Southampton, UK

All the overseas speakers

Local speakers

Additional Secretary, Ministry of Health Dr Palitha Mahipala

Deputy Director General, Public Health Services, Dr Sarath Amunugama

Director, National STD / AIDS Control Programme Dr Sisira Liyanage,

All the members of the council and the College of Venereologists

All my colleagues and staff in the National STD/ AIDS Control Programme

All my colleagues in Teaching Hospital, Ragama

And all of you who are here today to grace this occasion

I take this opportunity to give you an insight into some of the possible challenges in providing care for HIV positives in Sri Lanka. I will mainly focus on the HIV situation in Sri Lanka, challenges in HIV care and challenges ahead for Sri Lanka such as new infection rate, evolving evidence and changing treatment criteria and options, HIV and ageing, changing pattern of mortality and morbidity with anti retroviral therapy (ART), sexual and reproductive issues, drug resistance and opportunistic infections in my presentation today.

Let us have a glimpse of the HIV situation in Sri Lanka. As many of you are aware, Sri Lanka is still classified as a low prevalent country for HIV. We came across our first HIV positive patient in 1987 with a diagnosis of Pneumocystis jiroveci pneumonia. He has had homosexual exposures in a foreign country. The first Sri Lankan who acquired the infection locally was diagnosed in 1989. The facilities for management of HIV positives was very limited at that time, and the awareness and attitudes of health care staff and the general public, on HIV was very much different to the situation which prevails today. Today we consider HIV as a chronic disease and the provision of care is improved immensely if they are diagnosed early. But we face a set of challenges in providing care for HIV positives.

Over the years the estimated number of new HIV infections per year has increased significantly. Remember this is not the actual number of diagnosed cases but an estimate which is done by a mathematical calculation taking several factors into consideration. As you can see there is a 70% increase from 2001 to 2011.

When comparing the estimates in 2001 and 2011 you can see number of people living with HIV has increased from 1900 to 4200 that is by 120%, number of new infections increased by 70% and prevalence of HIV increased almost by 200%. This will give you an insight into the hidden epidemic, which will erupt, unless we take timely interventions. At the end of 2012, there were 1649 diagnosed HIV positive adults and 58 HIV positive children (<15 yrs age) in the country. Out of them 1073 HIV positive adults and 40 HIV positive children were under our care at the end of 2012 and 387 of them were on ART.

Among the major challenges that Sri Lanka face today are, the possibility of increasing number of new cases, presence of significant number of key

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populations like men having sex with men (MSM), injecting drug users, female sex workers practising unsafe sex which could fuel the epidemic, challenges in providing ART, such as ART coverage, changing ART regimens, and treatment criteria, ART associated other issues (cost, availability of options, toxicities and their management, metabolic syndrome, anti retroviral (ARV) resistance) and new range of challenges due to HIV and ageing.

In describing these challenges first I shall explain the rising new infection rate in Sri Lanka. There are four countries in South East Asia which records an increase in identification of new cases among adults between 15–49 years old between 2001 and 2011. Unfortunately Sri Lanka is among the few countries which show an increasing trend. The number of identified HIV cases per quarter during the last three years shows a clear increase.

When we are talking about the evolving treatment options and criteria, it is important to note that we are one of first countries that adopted 2010 WHO guidelines. The first challenge ahead of us is providing ART for the eligible. The main changes were to start ART at a CD4 count of 350 instead of 200 and to provide ART for high risk groups and sero discordant couples. In addition to that, we continue ART for all mothers in whom ART was started for prevention of mother to child transmission. In the guidelines issued by WHO in 2013 the CD4 count cut off for the initiation of ART has been increased to 500. We have still not taken this cut off as the eligibility criteria to start ART. The challenges faced with the new guidelines are new budgets for ART, adherence issues with the start of ART in asymptomatic patients, starting ART in high risk groups especially in drug users and MSM, and more long term side effects due to ART.

As the life expectancy increases, the age related complications also will be more and we are facing the challenge of caring for an ageing HIV positive population. As you all can very well understand, risk of co- morbidities increases with age. Even though these problems may not be directly related to HIV, the long term drug related complications have to be dealt with care. More and more resources are needed to handle this situation. Some of the challenges when caring for an elderly population are development of frailty (muscle weakness, weight loss, fatigue, and low levels of physical activity), insulin resistance, diabetes mellitus, cardiovascular disease, chronic kidney disease, bone disease, cognitive impairment and dementia, HIV-related and unrelated malignancies, drug interactions due to the other medications and liver dysfunction such as chronic ALT elevation, steatosis, steato-hepatitis, increased drug-related toxicity, and hepatocellular carcinoma. More severe liver disease in ageing patients with HBV, HCV with 4-fold increase in morbidity and mortality due to liver disease among older patients is also a challenge.

Next, I would like to highlight some changing patterns of mortality and morbidity among people living with HIV. Causes of death in participants in the Swiss HIV cohort study in 3 different time periods, and in the Swiss population in 2007 shows that the pattern of death among HIV positives have changed from the early years dramatically. Between 1984 and 1995 the majority of the deaths were AIDS related but in 2007, the AIDS related deaths were at a very minimum level, while the AIDS related and non-AIDS related malignancies and deaths due to cardiovascular disease have contributed mostly to the deaths among positive people.

Now I would like to take you through some of the co- morbidities that could be associated with HIV infection and some due ART. The major co-morbidities are,

- Cardiovascular diseases (CVD) with 75% increase in risk of acute myocardial infarction.
- Reduced bone mineral density with increased prevalence (63%) among HIV infected patients.
- Neuro–cognitive dysfunction prevalent among (50%) HIV infected patients.
- Renal dysfunction with 30% of HIV infected patients having renal function abnormalities.
• Increased risk of non-AIDS-defining cancers. e.g. anal, vaginal, liver, lung, melanoma, leukemia, colorectal and renal malignancies.

We should be ready with facilities to screen and treat these co-morbidities. A multidisciplinary approach is needed when caring for HIV positives and we should establish the necessary communications with other specialities. It is the responsibility of all of us in all specialities to consider HIV care in our practice.

The questions for future are
• Are newer ART regimens associated with specific CVD profiles?
• For HIV-infected individuals with CVD or at high risk for CVD, when is the optimal time to start ART and what is the optimal ART regimen?
• Should treated HIV infection be considered a CVD risk equivalent similar to diabetes mellitus?

I would like to speak a few lines on osteoporosis only, as the number of HIV positives who are started on tenofovir which is a leading cause of osteoporosis is increasing. Osteoporosis and fractures are common in HIV-positive patients and will increase with ageing. Risk factors include chronic infections which are HIV related, ART (tenofovir, certain PIs) and behavioral factors like smoking and alcohol. Dual-energy x-ray absorptiometry should be considered in all HIV-positive postmenopausal women and in men aged older than 50 yrs for screening of osteoporosis. Are we ready to screen all these people? Do we have the necessary resources? Those are the questions ahead of us. As I mentioned previously with the increase in ageing population, we have to be ready to manage the metabolic complications mentioned above.

The other emerging challenge ahead of us is providing sexual and reproductive care to those infected. My colleague, Professor Athula Kaluarachchi will be speaking to us on this topic tomorrow in our scientific sessions. Some of the key linkages between sexual and reproductive health and HIV/AIDS care are, learning the HIV status, promotion of safer sex, optimizing connection between HIV/AIDS and STI services and integrating HIV/AIDS with maternal and infant health. As a significant proportion of women with HIV are sexually active (70-80%), contraceptive advice is essential. Unintended pregnancies are common. In Sri Lanka also, we have experienced this despite thorough counselling. Pre-conception counselling, natural reproduction and assisted reproduction are the important areas for discussion. Counselling on contraception and fertility, and providing them with fertility options is a big challenge ahead of us. The changes in the natural history and the availability of ART to bring down the viral load to an undetectable level has led to changes in the ethical and moral arguments previously used to deny assisted reproduction to HIV-infected patients. Increasingly, parenting is regarded as a realistic option for couples where one or both partners are infected and the demand for reproductive care is rising. In Sri Lanka, up to now, there are 12 couples seeking fertility care but facing many problems due to the lack of facilities like sperm filtration in the government sector. Sperm washing is not available in Sri Lanka.

Another very big challenge ahead of us is ART failure and drug resistance. The experience is different in our setup when compared with the developed world. There are 387 HIV positives on ART in Sri Lanka. Out of them 232 are on first line regimen, 131 on substituted therapy and 24 has been switched to 2nd line regimens. The reasons for substituting and switching regimens are evidence of immunological, virological or clinical failure and side effects of the drugs. Though virological assessment is not available in a regular basis when available, is done free of charge.

With the advent of new antiretrovirals, side effects, drug interactions, resistance development is very much less when compared to the previous regimens. The combined pill containing tenofovir, emtricitabine and efavirenz gives remarkable clinical improvement and for the reason that they take only one pill a day has improved adherence dramatically. Drug resistance may be due to primary or transmitted resistance. Drug resistance testing is not available in Sri Lanka but available in the region and it costs about 75, 000 LKR. It is a challenge to study the local
resistance pattern. Other challenges are making pediatric preparations available and making available alternative regimens to be used in second line failure, drug interactions and co-morbid conditions where some of the combinations cannot be used.

Managing opportunistic infections is a big challenge for us as diagnostic facilities are very minimum and costly. The number of people who were diagnosed with opportunistic infections in 2012 is 38. Most of them have presented and diagnosed at very late stages. The most common opportunistic infections found in Sri Lanka are oesophageal candidiasis, tuberculosis, *Pneumocystis jirovecii* pneumonia and cryptococcal meningitis. The facilities for diagnosing opportunistic infections are not at an optimal level in Sri Lanka. The National Reference Laboratory should be equipped with facilities for diagnosing opportunistic infections which are common in Sri Lanka. Eg: TB culture, PCR for TB, culture for non-TB mycobacteria, cryptococcal antigen.

Let me now draw your attention to some hopes in the horizon regarding HIV/AIDS.

Development of a vaccine against HIV/AIDS and functional cure are major areas of interests. A successful vaccine might be an antibody which binds the virus and neutralize or stop virus from infecting cells and eliminate virus or cytotoxic T lymphocytes (CTL) which recognise cells infected with virus and kill them. Protein sub units of the virus, synthetic peptides, naked DNA, inactivated virus, live attenuated virus and live vectored preparations can be used as main approaches in HIV vaccine development. But viral genetic diversity, immune protection, neutralising antibodies and vaccine testing are challenges in HIV vaccine research.

When discussing about HIV functional cure, there are two incidents reported. One is the famous Berlin patient who underwent a stem cell transplant for acute myeloid leukaemia from a donor who was homozygous for CCR5 delta 32 gene. ART was discontinued with the procedure and he recorded an undetectable viral load, loss of anti-HIV, virus-specific interferon-ɑ–producing T-cells during follow-up suggesting that HIV antigen stimulation was not present after transplantation. The absence of measurable HIV viremia in this patient probably represents the removal of the HIV immunologic stimulus. But, is it possible to take this as therapy for HIV?

The other case record is on a baby known as ‘The Mississippi Baby’ who was given combined ART in first few hours of life and appears to have eliminated HIV. She was born to HIV positive mother, received three ART (AZT, 3TC, NVP) very early in life within 30 hrs of birth. Now she is two and half years old and off medication for more than one year without evidence of HIV infection and undetectable viral load. The question is could this be possible for all?

To combat the epidemic, elimination of stigma and discrimination among health professionals and the general population should be taken as a priority and the National STD/AIDS Control Programme has and is taking all the efforts towards this. My requests to this learned audience are to take every effort to diagnose people with HIV, minimize stigma and discrimination in health care settings and among general population and help the National Programme in implementing the preventive and curative services in the field of HIV. Thereby make your contribution to the effort in achieving three zeros,

- Zero new infections
- Zero HIV related deaths
- Zero discrimination

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