Editorial

Filariasis-free Sri Lanka

Sri Lanka Journal of Child Health, 2017; **46**(3): 201-202
DOI: http://dx.doi.org/10.4038/sljch.v46i3.8317
(Key words: Filariasis, Sri Lanka)

Lymphatic filariasis (LF) is caused by a variety of filarial parasites of which 2 are found in Sri Lanka viz. *Wuchereria bancrofti* and *Brugia malayi*. Of the two, *Brugia malayi* is more widely adapted to animal hosts other than humans[1]. Adult worms are very small and lodge in the lymphatic system living for around 4-6 years[1]. They produce thousands of immature microfilariae which reach the peripheral blood stream nocturnally and are ingested by mosquitoes mainly belonging to the Culex species. In Sri Lanka, *Culex quinquefasciatus* is the sole vector responsible for the spread of filariasis, transmitting the microfilariae from person to person[1]. Microfilariae ingested by *Culex quinquefasciatus* change into larvae which are deposited on the surface of the human skin during a blood meal. The larvae penetrate the skin, find their way into the lymphatic vessels and become adult males and females in 6-12 months. *Culex quinquefasciatus* mosquito breeds in polluted and stagnant collections of water which are plentiful in urban areas. Common breeding sites include blocked drains, pit latrines and damaged septic tanks[1]. Only a proportion of persons infected with filarial parasites develop clinical symptoms[1]. Acute clinical manifestations of LF include episodic attacks of adeno-lymphangitis whilst chronic clinical manifestations include chronic lymphoedema or elephantiasis, hydrocoele and chyluria[1].

In 1997, the World Health Organisation (WHO) classified LF as potentially eradicable and the 50th World Health Assembly resolved to eliminate LF as a public health problem[2]. In response, the WHO initiated the Global Programme to Eliminate Lymphatic Filariasis (GPELF) in 2000 with the aim of eliminating LF as a public health problem by 2020[2]. This programme has 2 principal goals viz. interruption of transmission of LF in endemic communities and interventions to prevent and manage disabilities associated with LF[2]. To interrupt transmission, districts where LF is endemic are mapped out and a strategy of prophylactic mass drug therapy carried out targeting the entire at-risk population[2]. The second goal of GPELF is achieved through provision of access to basic care to all affected persons in endemic areas[2].

Mass drug administration (MDA) has two objectives. First objective is reduction of the microfilarial density in the blood of infected individuals to levels where the mosquito vectors are no longer capable of transmitting them to new human hosts. Second objective is reduction of microfilarial prevalence in the community to levels where transmission cannot be sustained despite presence of mosquito vectors[3]. MDA must cover everyone except children less than 2 years of age, pregnant women and very sick people in the community and must be continued for a minimum of 5 years, the time thought to be the reproductive lifespan of an adult worm in an infected host[3]. There should be a minimal coverage of 65% of the total at-risk population[2]. The WHO recommends the administration of Ivermectin (150µg/kg of body weight) and albendazole (400 mg) in locations where onchocerciasis is co-endemic and diethylcarbamazine (6 mg/kg of body weight) and albendazole (400 mg) in other areas[2].

Based on the WHO recommendations, Sri Lanka commenced a national programme to eliminate lymphatic filariasis in 1999[1]. Single day treatment with diethylcarbamazine (DEC) was started in the Colombo district in 1999 and in 2001 a single dose of albendazole was added to the single day treatment with DEC. In 2002, single day treatment with DEC + single dose albendazole were given to all endemic districts[1]. Five consecutive annual MDA rounds were completed in 2006. Reported coverage was consistently more than 80% according to independent assessment. Side effects were negligible and no serious adverse events were reported[1]. After 5 rounds of MDA, the microfilaria prevalence rate fell to 0.05%[1]. MDA was not administered to children below 2 years of age, pregnant mothers, breast feeding mothers or persons with acute illness[1]. In May 2016, Sri Lanka and Maldives became the first countries in the WHO South-East Asia Region to be officially declared 'filariasis free'[4]. On 21st of July, 2016 Sri Lanka received the Certification on Elimination of Lymphatic Filariasis from the WHO for successfully bringing down the microfilaria rate to less than 1%[5]. Thus, Sri Lanka has achieved filariasis-free status long before the target year of 2020, a veritable feat indeed.

References

1. Ministry of Health, Sri Lanka. Anti Filariasis Campaign. Available from: http://www.filariasiscampaign.health.gov.l

k/subpgs/hom_lymphatic.html (Accessed on 28 July 2017)

2. Global Programme to Eliminate Lymphatic Filariasis. Available from: http://www.who.int/lymphatic_filariasis/elimination-programme/en/ (Accessed on 28 July 2017)

3. Ichimori K. MDA- Lymphatic Filariasis. *Tropical Medicine and Health* 2014; **42**(2 Suppl): 21-4. https://doi.org/10.2149/tmh.2014-S03 PMid: 25425947 PMCid: PMC4204062

4. World Health Organisation. WHO officially declares Sri Lanka filariasis free. Available from: http://www.searo.who.int/srilanka/areas/filaria/en/ (Accessed on 28 July 2017)

5. Sri Lanka receives WHO certification over Filaria. Available from: file:///C:/Users/User/Downloads/Filariasis%20free%20Sri%20Lanka/Sri%20Lanka%20receives%20WHO%20certification%20over%20Filaria%20-%20Sri%20Lanka%20News.html (Accessed on 28 July 2017)

G N Lucas
Joint Editor SLJCH

The author declares that there are no conflicts of interest.