

Dengue Fever Outbreak: Prevention Possible

Dear Editor,

The editorial written by Jenny GH Low and Eng Eong Ooi published in the August 2013 issue on the changing epidemiology of dengue fever in our ageing population and the need for clear management strategies is certainly informative as well as timely in view of the increasing spread of the disease in our country since last year despite intense efforts of the National Environmental Agency (NEA) to control it.

However, I feel that the age-old concept of “prevention is better than cure” still provides good guidance. Treatment, of course, is important, but as in any public health hazard, we should also place strong emphasis on prevention. Dengue fever is transmitted by mosquitoes; mosquitoes depend on stagnant water to breed. Many countries find it difficult to eradicate mosquito-breeding sites because of large geographical areas which are not easily covered. Hence, they have to concentrate on treatment of patients and experiment on novel control methods such as the introduction of infertile male mosquitoes.

In a way Singapore has the advantage of being insular with a small territory; we can access all corners of our city state readily. Although mosquitoes can be carried quite far by wind, they mostly remain around their breeding sites and forage within a short radius, which by my personal experience should not be more than 50 metres. I would venture to say that rendering Singapore mosquito-free is not a wild dream.

Based on data provided by the Ministry of Health, 66 new cases of dengue fever are reported on average every day. Chikungunya probably is as widespread though many of the cases are not reported. Why have dengue fever and chikungunya continued to spread in our country?

Firstly, we do not have a game plan to control mosquito breeding. In the past 20 years, each time I lodged a complaint to NEA about mosquito infestation in the neighbourhood, I could expect no more than a one-off response without any follow-up or a long-term solution. The problem recurred in no time.

Secondly, there is incoordination among the various authorities—National Environmental Agency, National

Parks Board, Public Utilities Board and Land Transport Authority. Responsibility for dealing with certain mosquito-breeding sites is disclaimed by all departments.

Thirdly, there are different mosquito-breeding sites that require different approaches for control.

We should consider the following possible mosquito-breeding sites:

1. Of all the mosquito-breeding sites, I would rate construction sites as most significant. They breed mosquitoes in swarms. In hot weather, the life cycle of mosquitoes can be shortened to a few days. How often can the NEA officers inspect the numerous construction sites? Heavy fines for littering have made Singapore a clean city state. The same strategy can apply here. Heavy fines on both construction firms and their contractors for mosquito-breeding would be highly effective.
2. Landed houses fall vacant here and there. Some of them have drains obstructed by fallen leaves and unused swimming pools not properly cared for, leading to mosquito breeding. NEA officers usually avoid intervention as they have no access to these premises. There should be a law requiring the owner or agent of a landed house that has fallen vacant for a certain period to notify NEA and provide the officers with access to the premises.
3. National Parks should consider planting only trees with small leaves. Fallen large leaves take weeks or months to decay and may form stagnant water for mosquitoes to breed, especially when they fall into drains and cause blockage. Because of their narrow width, open scupper drains are prone to be obstructed by fallen leaves. All open scupper drains in the island should be covered up.
4. Private occupied homes may breed mosquitoes if potted plants are placed in plate-like basins that may accumulate stagnant water. The other possibilities are obstructed drains and gutters and containers carelessly placed outdoor. Public education is important and it should begin in primary school.

The widespread use of chemical fogging by private individuals is considered ineffective for mosquito control by NEA. It pollutes the environment. The active ingredient, cypermethrin, a neurotoxin is also classified as a potential carcinogen.

It is not unrealistic to hope for an essentially mosquito-free Singapore if we replace our present piecemeal control measures with a holistic approach.

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Dengue Fever Outbreak: Prevention Possible (Author's Reply)

We thank Dr Ong for his comments on our editorial published in August 2013 titled “Dengue—Old Disease, New Challenges in an Ageing Population”.

We agree with him wholeheartedly that prevention is far better than cure. However, the aim of our editorial is to address the challenges of dengue management in the face of an ageing population. The editorial focused on highlighting the gaps in our current understanding of dengue in the elderly as a specific problem that medicine now faces.

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