Treat Malaria Today and Eradicate the Disease Today: A model for Disease Eradication Strategy for Endemic Regions

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Abstract:

Problem:

There has been a lack of organized strategy to unify the treatment of malaria and many tropical diseases, and a lack of continuous effort to re-educate the physicians and health providers with latest advances in the field of tropical medicine in worldwide. More importantly there has been a lack of conceptual framework for the treatment eradication of malaria or other tropical diseases. Statistical and demographic data are lacking even in many institutional settings. This has created, in many developing countries, over-dependency on WHO and similar organizations that have primary objectives many times divergent from the immediate needs of individual countries or states they should serve.

Method;

The first consideration in formulating a treatment strategy is to define the objectives and the intent of the strategic guideline based on the expected outcome. Thus the two main objectives of a malaria treatment strategy are:

(1) To reduce morbidity and mortality from malaria

(2) To eradicate malaria on the long term.

To achieve these, the concept of Malaria Individual Eradication (MIE) is proposed. The MIE concept is built on the premise that every confirmed case of malaria offers us an opportunity to target eradication of the disease by focusing on that individual case, treating immediate infection, preventing relapse, preventing recrudescence, and above all stopping re-infection. This can be summarized as Treat Relapse Recrudescence and Re-infection (TR3).

The MIE program is a wining concept for the eradication of malaria. Armed with existing and new tools, MIE education for doctors and health care providers shall be taught in medical schools and CME/CPD courses. MIE is redesigning treatment guidelines for malaria with the aim to eradicate the disease rather than stop at the point of care that have hitherto been the practice. A MIE center is proposed for every teaching and general hospital, and for all local government headquarters to track malaria incidence, support referred patients and homes with indoor DDT sprays and outdoor, breathing site spray with bio-degradable EK solution. AAPCR shall provide the training for specialized health care workers on the use of DDT and EK solution, and support electronic data and records. Governments at the local, state and federal levels are called to support and partner with AAPCR to catapult the program to quick success. Public education and advertisement on malaria prevention shall be vigorous.

Guideline features:

All treatments should be with combination anti-malaria medicines. Monotherapy is discouraged. All treatments should contain Artemisinin or its derivatives in combination with one or more other anti-malaria medicines for at least the initial 3 days. Once decision to treat is made, complete course of treatment should be given whether diagnosis of malaria is confirmed or not, and whether the patient is symptomatic or not. These measures are meant to reduce drug resistance.

(WHO guidelines)

Preventing same individual from malaria disease a second time should be integrated into the guideline. This is done using targeted indoor residual spraying (IRS) and or community wide IRS and encouraging the use of EK solution to kill mosquitoes in the surrounding breathing grounds.

Ongoing research with new techniques to limit the development of resistance to anti-malaria drugs and to achieve selective pharmacology and drug targets using nano-technology is the future in the war against malaria.