

Frontline malaria drugs ineffective in Southeast Asia

STAR HEALTH DESK
 Multidrug-resistant forms of *Plasmodium falciparum* parasites, the most lethal species causing human malaria, have evolved even higher levels of resistance to antimalarial drugs and spread rapidly since 2015, becoming firmly established in multiple regions of Cambodia, Laos, Thailand, and Vietnam, where they are causing alarmingly high treatment failure rates to a widely used frontline malaria drug combination.



The findings of two studies, published in *The Lancet Infectious Diseases* journal, reveal that by 2016–2018 malaria parasites resistant to both artemisinin and its widely used partner drug piperazine represented more than 80% of the parasites circulating in northeast Thailand and Vietnam, despite having only emerged in western Cambodia in 2008. These rapidly spreading parasites have also acquired new resistance mutations linked with even higher rates of treatment failure, causing failures to one of the newest and most powerful frontline drug combinations (dihydroartemisinin-piperazine; DHA-PPQ) in half of cases in western and

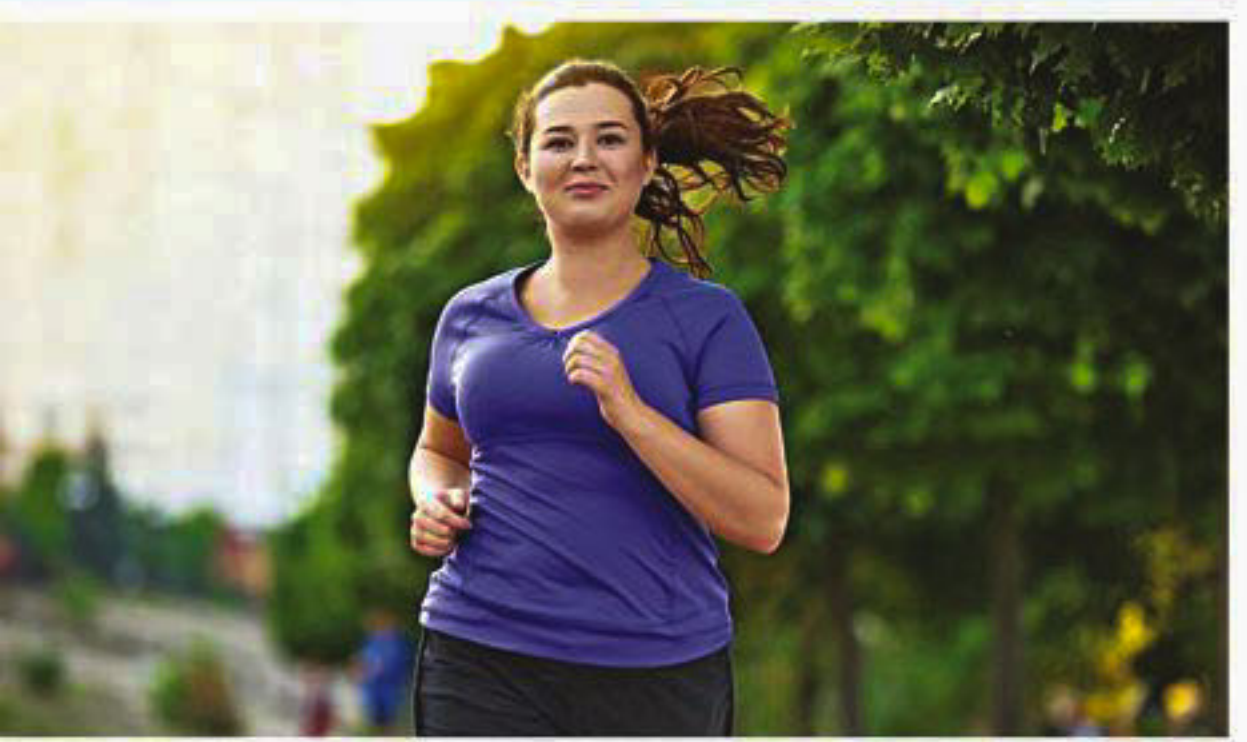
northeastern Cambodia, northeastern Thailand, and southwestern Vietnam in 2015–2018, further compromising efforts to eliminate the disease. With DHA-PPQ now providing ineffective treatment and promoting the spread of resistance, the authors of a multi-country randomised trial led by Professor Arjen Dondorp from the Mahidol Oxford Tropical Medical Research Unit in Thailand, call for this commonly used frontline combination therapy to be abandoned in

the eastern Greater Mekong Subregion (Cambodia, southern China, Laos, Myanmar, Thailand, and Vietnam), even in areas where resistance has only just started to emerge. More than 200 million people are infected with the malaria parasite *P. falciparum*, which is responsible for 9 out of 10 deaths from malaria. Worldwide, antimalarial efforts are mainly dependent on artemisinin combination therapies (ACTs) that pair artemisinin with one of six partner drugs to complete

PLA1 parasites maintained a high level of genetic relatedness reflecting their common origin. Importantly, several genetic KEL1/PLA1 subgroups have recently emerged that carry mutations in the chloroquine resistance transporter (*crt*) gene, which increase the parasites' ability to resist piperazine — causing a proliferation of biologically fitter and increasingly resistant parasites. Dr Didier Ménard from the Institut Pasteur in France, says: "These studies illustrate the accelerated pace at which *P. falciparum* resistance to DHA-PPQ has evolved and spread across Southeast Asia, decimating its efficacy and clearly highlight the urgent need for adopting new and effective treatments (such as triple ACTs or the ACT artesunate plus pyronaridine). They also evoke advantages of implementing a regional strategy rather than country-specific programmes to address population movements and integrate region-wide clinical and genetic surveillance systems into a coordinated campaign whose goal is to achieve malaria elimination in Southeast Asia."

Source: The Lancet

HEALTH bulletin



Jogging and other exercises ward off weight gain despite 'obesity genes'

For people who inherited genes that increase their chance of becoming obese, there is hope for keeping the weight off. A study by Wan-Yu Lin of National Taiwan University and colleagues, published in *Public Library of Science (PLOS) Genetics*, identified the types of exercise that are especially effective at combatting genetic effects that contribute to obesity. The researchers looked specifically at five measures of obesity, such as body mass index (BMI), body fat percentage and waist-to-hip ratio. They found that regular jogging was the best type of exercise for managing obesity, according to the five measures. Moreover, mountain climbing, walking, power walking, certain types of dancing, and long yoga practices also reduce BMI in individuals predisposed to obesity. Surprisingly, cycling, stretching exercises, swimming and Dance Dance Revolution did not counteract the genetic effects on obesity. Overall, the study suggests that when it comes to obesity, genetics are not destiny, and the effects can be lessened by several kinds of regular exercise. As obesity continues to be a serious public health challenge, the benefits of exercise cannot be overstated.

Dengue in new look and how to deal with it

PROF M KARIM KHAN

Now most of the patient having fever are scared of dengue. They themselves are asking to give some tests to exclude dengue. Last year, the number of dengue patients were minimum but this year many more patients are affected. We all know there are four dengue serotypes Den 1,2,3,4. Classical sign symptoms are high fever for two to seven days with severe headache, neck pain, retro orbital pain, body ache (Bone breaking pain) and rash. Sometimes there are thrombocytopenia, haemorrhage and plasma leakage, edema, ascities, pleural effusion, hypotension, shock and may even death. This year dengue symptoms and signs are quite different than that of the classic pattern.

This year dengue affected victims develops fever, mild malaise and pain, which subsides after 2-3 days but following that, the patients starts vomiting, being restless, hypotensive, developing cold clammy skin, goes into shock associated with decrease platelet count and hematocrit rise. If there is any delay in treating these patients, they may succumb to death. So, what to do now? If you develop fever with above symptoms and signs, don't be panic - start paracetamol to reduce fever, take plenty of water plus oral rehydration saline (ORS), have rest and consult with a doctor. On day one, if you are very worried you can do blood test NS1, better wait. After 4-5 days if you are not okay, do platelet count, hematocrit, tourniquet test and

dengue IgM. Pay a visit to your doctor again. If there are petechiae, purpura, echymoses, subconjunctival haemorrhage, vomiting, hypotension, weakness get admitted immediately following the doctor's advice but keep taking ORS on. Dengue is a vector borne disease and *Aedes aegypti* mosquito is the vector. By the bite of the infected *Aedes mosquito* the disease transmits. The mosquitoes mostly bite at dawn and dusk while they reside on stagnant clean water. We have to keep ourselves protected from the mosquito bites and at the same time we have to keep our premises clean. Stay happy and healthy.

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PHOTO: STAR

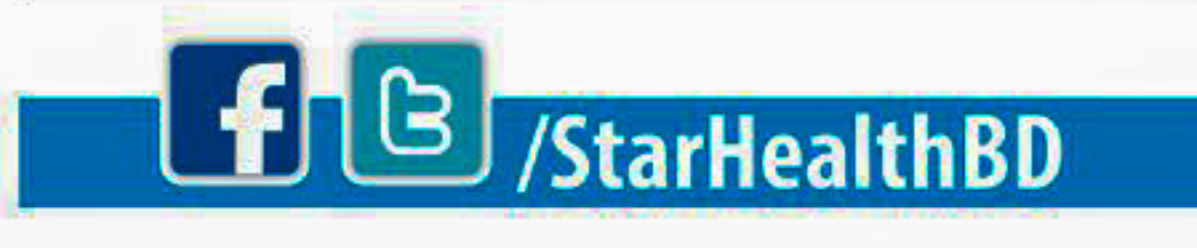
ADDICTION CONTROL

Cognitive-behavioral therapy for internet addiction

Internet addiction (IA), which is being debated as a formal diagnosis for the Diagnostic and Statistical Manual (DSM) and elsewhere, has been defined as a pathological, impairing pattern of preoccupation with internet activities such as gaming, gambling, pornography, streaming video, and surfing for random information. These investigators randomised 143 well-educated men with various IA subtypes in Germany and Austria (mean age, 26) to a manual-based cognitive-behavioural therapy (CBT) designed for this condition (short-term treatment for Internet and computer game addiction [STICA]) or to a wait-list control (WLC). STICA consisted of 15 weekly 100-minute group sessions interspersed with eight 60-minute individual sessions aimed at maintaining motivation for therapy. At the end of treatment, in analyses controlling for factors such as comorbidity and IA severity, remission was 10 times more likely with STICA than WLC. That a diverse population of well-educated men has significant social and occupational impairment supports the impression of a spectrum of behaviours characterised by craving, loss of control, excessive salience of and over involvement with internet-generated stimulation, and even tolerance and withdrawal leading to escalating involvement, as is seen in substance addiction. Variants of CBT combined with motivational enhancement seem promising for these conditions, as well as perhaps for other syndromes of excessive and irrational engagement with stimuli that provide immediate mental or physical reward.

High blood sugar levels and BMI linked to stillbirth in mothers with diabetes

High maternal blood sugar levels and BMI are risk factors for stillbirth in mothers with diabetes, according to a new study in *Diabetologia* (the journal of the European Association for the Study of Diabetes), with babies at the lowest and highest weights being most at risk. Mothers with pre-pregnancy diabetes are at a four to five times increased risk of stillbirth - with no improvement seen over recent years, in contrast with decreasing stillbirth rates seen in the general obstetric population. Furthermore, the level of the mother's blood sugar emerged as a key risk factor for increased risk of stillbirth. Overall, while one third of stillbirths in mothers with diabetes occur close to term and might be influenced by policy on delivery, the majority occur before 37 weeks and finding better ways of detecting babies at risk will be critical. Maternal obesity, advanced maternal age and smoking are known to be important modifiable risk factors for stillbirth in the general population, as is restricted fetal growth. However, data on pregnancies complicated by diabetes are more limited. Previous studies have indicated that suboptimal maternal blood glucose levels, microvascular complications and poor preparation for pregnancy are associated with stillbirth in mothers with diabetes - however traditional risk factors noted in the general population are less well documented for mothers with the condition. This study, of over 5,000 infants over 18 years, considering a range of potential risk factors, has clearly shown that maternal blood sugar levels and BMI are the main modifiable risk factors associated with stillbirth in women with diabetes. Mortality rates are highest for infants born small for their gestational age, but large infants are also at increased risk.



Dengue is a viral infection spread by mosquitoes. It's widespread in many parts of the world.

In most people the infection is mild and passes in about a week without causing any lasting problems. But in rare cases it can be very serious and potentially life threatening.

How dengue is spread

Dengue is spread by infected mosquitoes, usually the *Aedes aegypti* and *Aedes albopictus* varieties. These mosquitoes bite during the day, most often early in the morning or in the early evening before dusk. Dengue isn't spread from person to person. You can get it again if you've had it before.

Severe dengue

People who've had dengue before are thought to be most at risk of severe dengue if they become infected again. It's very rare for travellers to get it. Signs of severe dengue can include:

- Severe tummy (abdominal) pain
- Bleeding gums or bleeding under the skin
- Cold, clammy skin
- Persistent vomiting and vomiting blood
- Breathing difficulties or fast breathing
- A weak but fast pulse

Treatment for dengue

There's no cure or specific treatment for dengue. Treatment involves relieving your symptoms while the infection runs its course. The following can help:

- Take paracetamol to relieve pain & fever- avoid aspirin or ibuprofen, as these can cause bleeding problems in people with dengue
- Drink plenty of fluids to prevent dehydration - if you're currently abroad, only drink bottled water from properly sealed bottles
- Get plenty of rest

You should start to feel better in around a week, although it may be a few weeks before you feel your normal self again. Get medical advice if your symptoms don't improve.



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