

MALAYSIA is once again on high alert for malaria due to the increase in the number of cases and detection of a new malaria parasite in three villages in Kuching, Sarawak. The newly discovered malaria parasite is called *Plasmodium knowlesi*, which is transmitted from infected monkeys to Anopheles mosquitoes, which is then passed down to humans.

Malaria, primarily found in South Asia and sub-Saharan Africa, is a life-threatening disease caused by parasites.

There are five known malaria parasite species, and two of them – *Plasmodium falciparum* and *Plasmodium vivax* – pose the greatest threat. These parasites are transmitted to humans by the bite of an infected female Anopheles mosquito.

When bitten by an infected Anopheles mosquito, the parasites are released into the bloodstream. The parasites travel through blood to the liver, where they mature.

They then re-enter into the bloodstream and begin to infect red blood cells, causing the typical symptoms of malaria.

Depending on the species of *Plasmodium* a person has been infected with, the time from the initial mosquito bite until symptoms appear can range from seven days to about a month.

This is the incubation period. The severity of the symptoms also depends on the species as well as the individual's general health.

Typical initial symptoms include fever, headache, chills and vomiting. They may be mild and vague, hence the difficulty in recognising malaria early.

Symptoms then come and go in cycles. The time interval between episodes of fever and chills varies from 24 to 72 hours. Some species may cause more serious complications, such as damage to the heart, lungs, kidneys, or brain, and can be deadly.

Some population groups are at considerably higher risk of contracting malaria, and developing severe disease, than others. These include infants, children under five years of age, pregnant women, patients with HIV/AIDS, non-immigrant migrants, mobile populations and travellers.

Early and accurate diagnosis of malaria is essential to ensure quick and effective disease management as well as rapid surveillance to prevent spread of infection in the community via local mosquitoes.

The flu-like symptoms of malaria sometimes makes it difficult to detect. Malaria can be suspected based on the person's travel history to endemic countries, symptoms and the physical examination findings.

For a definitive diagnosis to be made, laboratory blood smear tests must demonstrate the presence of malaria parasites or their components. The blood test is also performed to monitor cure and relapses, and to determine drug susceptibility of the parasite causing the infection.

When a lab test is not readily available, rapid diagnostic tests sometimes called "dipstick" tests may be used instead.

These tests detect malaria antigens (proteins) in a sample of a person's blood, usually taken with a "finger stick". A colour change on the testing strip indicates a positive result. Delay in diagnosis and treatment is the leading cause of death in malaria patients.

Fortunately, malaria is treatable and preventable, and increased efforts globally are dramatically reducing the malaria burden in many places.

According to UNICEF, over the last 15 years, the delivery of core malaria interventions has undergone an unprecedented expansion.

For example, since 2000, one billion insecticide-treated mosquito nets have been distributed in Africa.

These bed nets are not only an effective means of preventing malaria by creating a protective barrier against mosquitoes at night, but also simple and cost-friendly.

The introduction of rapid diagnostic tests has made it possible to distinguish between malarial and non-malarial fevers more quickly – enabling timely appropriate treatment.

Artemisinin-based combination therapies (ACTs) are highly effective against *Plasmodium falciparum*, the most prevalent and lethal malaria parasite.

A full course of life-saving malaria treatment costs just US\$1 (RM4.40) and cures a child in one to three days.

Let's make malaria no more!

World Malaria Day 2017, held last Tuesday, adopts the theme of 'A push for prevention'.

MALARIA FACTS

Malaria is a serious disease that is PREVENTABLE and TREATABLE.



Malaria is caused by *Plasmodium* parasites. Humans get infected via mosquito bites.

Pregnant women are at **HIGH RISK** of dying from complications of severe malaria!



97 countries and territories had ongoing malaria transmission in 2015*



3.2 billion people are at risk of malaria worldwide.*



a child dies from malaria in Sub-Saharan Africa.*



Each year, over **10,000**

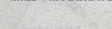
travellers are reported to become ill with malaria after returning home.*



MILD / MODERATE

SYMPTOMS

SEVERE



MEDICAL EMERGENCY
DO NOT IGNORE SYMPTOMS. Go straight to the doctor.



EARLY DIAGNOSIS and prompt treatment prevent deaths

Malaria may become a medical emergency without prompt and appropriate treatment as the biggest challenges are related to growing drug and insecticide resistance.

WHO officials reported that mosquito resistance to insecticide and anti-malarial drugs have been an increasing concern.

It is therefore crucial to increase research funding as countries need to stay ahead of the development of drug resistance. For example since 2010, 60 of the 73 countries that monitor insecticide resistance have reported mosquito resistance to at least one type of insecticide used in nets and indoors sprays.

A silver lining was when WHO recently announced that the world's first malaria vaccine would be rolled out through pilot projects in three sub-Saharan African countries in 2018.

If the vaccine trial is a success, the drug would be widely distributed across the globe. The control and eradication of malaria demands a multi-faceted approach. As World Health Organization initiatives reach more communities and people at risk for malaria, many more lives will be saved.

Malaysia has come a long way in the prevention and control of malaria since the introduction of the Malaria Eradication Programme in 1960.

At present, Malaysia has a range of tools, including insecticides and public health awareness campaigns. But no preventative strategy is 100% effective – there will always be cases that slip through the net.

While scientists and organisations around the world are working together to accelerate the development of a malaria vaccine and ensure its availability in the developing world, fighting malaria is the responsibility of the community as a whole.

We have the tools to put an end to it, and prevention is better than cure.

This article has been vetted by Dr Verena Lee Kar Mun, a family medicine specialist, and is courtesy of IMU Healthcare.

The 'ABCD' of Malaria Prevention

- A** **AWARENESS**
Be aware of the risk and the symptoms.
- B** **BITE PREVENTION**
Avoid being bitten by mosquitoes, especially between dusk and dawn.
- C** **CHEMOPROPHYLAXIS**
If prescribed for you, use Chemoprophylaxis (preventive medications) to prevent infection.
- D** **DIAGNOSIS**
If prescribed for you, Diagnose and treatment if a fever develops (or worse) or more than being in malarial risk. Go to the doctor after diagnosis!

*Source: World Malaria Report, Malaria Fact Sheet, 2015
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