

WORLD MALARIA DAY

Changing the ways to fight malaria

DR MD RAJIB HOSSAIN

For more than 4,000 years, people have been fighting with Malaria. Still, the ancient disease remains the cause of 860,000 deaths every year. Drug resistant malaria, counterfeit anti-malarial drugs, inadequate testing and treatment facility made the fight difficult. It is the high time to shift from the traditional ways, to combat malaria and for counting it out. World Health Organisation (WHO) has published new guideline (2nd edition) for the treatment and procurement of anti-malarial drugs to make the battle successful.

Half of the world's population is at risk from malaria. Almost 250 million cases occur each year. With a view to ensuring universal coverage for all populations at risk and reduce malaria cases, 3rd World Malaria Day will be observed tomorrow with the theme "Counting malaria out". WHO has now given emphasis upon rapid diagnosis at local setting and effective treatment with Artemisinin-based combination therapy (ACTs), the best drug currently available to treat malaria.

The main changes from the first edition of the guide-

lines (published in 2006) are the emphasis on testing before treating and the addition of a new ACT named Dihydroartemisinin plus Piperaquine to the list of recommended treatments.

WHO now recommends that all cases of suspected malaria should be tested before starting any anti-malarial drug. Treatment based on clinical symptoms alone should be reserved for settings where diagnostic tests are not available.

There are two tests currently used for diagnosis of malaria — microscopy and Rapid Diagnostic Tests (RDTs). Microscopy needs specific settings like laboratory and skilled person. But RDTs is done using a dipstick and a drop of blood and can reliably demonstrate the presence or absence of malaria parasites in the blood within a moment. Moreover, it can be performed at all levels of the health system, including community settings upon which experts have given utmost importance.

Experts from WHO opined that moving towards universal diagnostic testing of malaria can be a crucial step forward in the fight against malaria. It will allow for the targeted use of ACTs for those



who actually have malaria. The aim is to reduce the emergence and spread of drug resistance and to help identify patients who have fever, but do not have malaria, so that alternative diagnoses can be made and appropriate treatment provided. Therefore, better management of malaria has a positive impact on management of other childhood illness and overall child survival.

The changing focus on effective treatment with ACTs is equally important to reduce emerging threat from drug resistance and ultimately the disease burden of malaria. Along with 80 coun-

tries, Bangladesh has been adopting ACT as first line of treatment. But higher cost, limited access in rural area, counterfeit drug and inadequate treatment are the barriers commonly encountered here in Bangladesh. Poor-quality medicines affect the health and lives of patients and sub-therapeutic drug levels in malaria patients, help develop resistance to this important life-saving class of drugs. In order to make the drug available, increased global financing and pooled procurement mechanisms will lead to large orders of quality products and to

economies of scale is crucial. At the same time monitoring and regular evaluation of the quality of drug by authority is also vital.

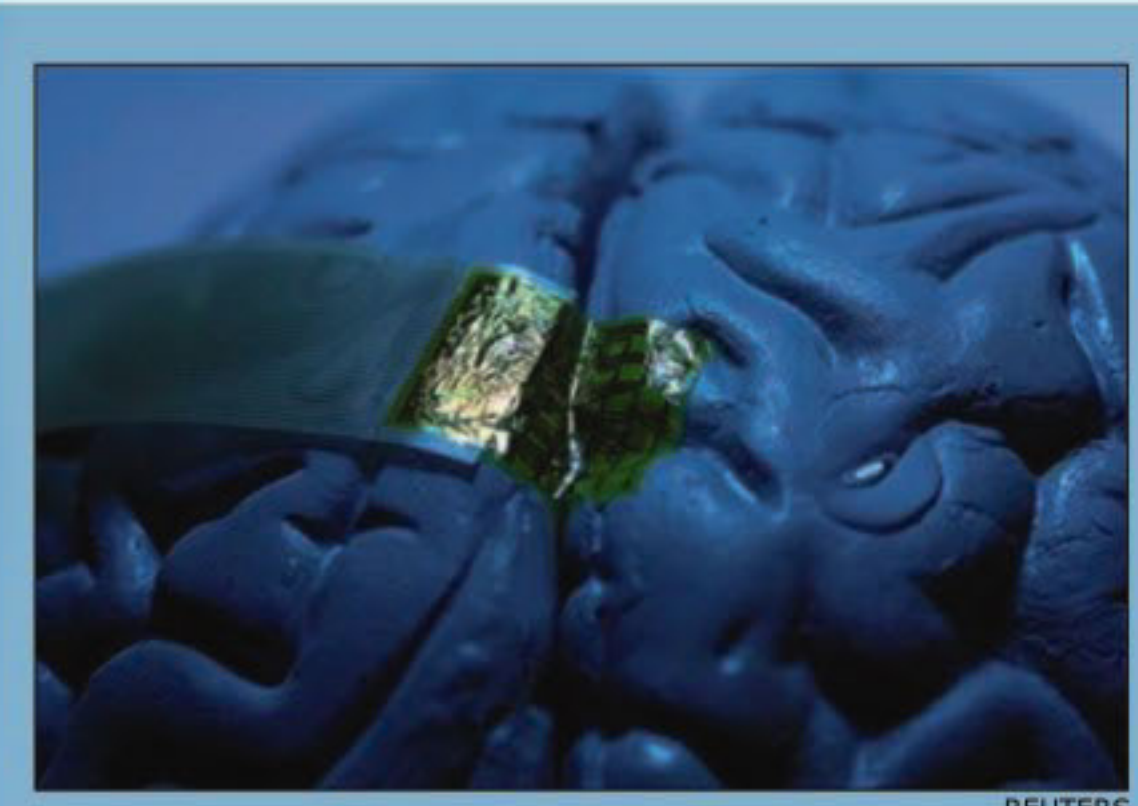
WHO warned that oral Artemisinin-based monotherapy should be removed from the market because their use will hasten the development of parasite resistance. Countries need to ensure that patients are diagnosed properly and take the full dose of ACTs to prevent the development of drug resistance. Otherwise the greatest hope left to win over malaria may be despair.

Again, malaria is not just a health issue that needs only

diagnosis and treatment. It is also an environmental management issue that affects where and how people live. There is urgent need to give proper attention to control the mosquito vector or malaria parasite. As the climatic change is one important issue aggravating the situation by causing more conducive breeding conditions and allowing malaria to spread further geographically. Water management has received far less attention compared to other control measures but as mosquitoes are becoming more resistant to pesticides and drugs are becoming less effective, finding water management-based interventions can be an increasingly important alternative.

There is tremendous burden of malaria on the lives and economies of those living in endemic areas. 85 percent deaths caused by malaria occur in children — the future of the nation. It also incapacitates adult and holds back the development of an entire population. We all should join to intensify the fight against malaria to kill the ancient monster, to save millions of lives, and to save millions of money.

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Neural electrode array wrapped onto a model of the brain. The wrapping process occurs spontaneously, driven by dissolution of a thin, supporting base of silk. (C. Conway and J. Rogers, Beckman Institute)

Silk brain implant could aid spinal injuries, epilepsy

REUTERS, Washington

A brain implant made partly of silk can melt onto the surface of the brain, providing an "intimate" connection for recording signals, researchers reported recently.

Tests of their device showed the thin, flexible electrodes recorded signals from a cat's brain more accurately than thicker, stiff devices.

Such devices might help people with epilepsy, spinal cord injuries and even help operate artificial arms and legs, the researchers report in the journal Nature Materials.

John Rogers of the University of Illinois, Urbana and colleagues at the University of Pennsylvania and Tufts University in Boston made the electrode arrays using protein from silk and thin metal electrodes.

The silk is biocompatible and water-soluble, dissolving into the brain and leaving the electrodes draped over its contours, the researchers reported.

They tested them on cats who were anesthetised but whose eyes were functioning. The electrodes recorded the signals from the eyes of the cats as they were shown visual images.

"These implants have the potential to maximise the contact between electrodes and brain tissue, while minimising damage to the brain," said Dr Walter Koroshetz of the National Institute of Neurological Disorders and Stroke, part of the National Institutes of Health, which helped pay for the study.

"They could provide a platform for a range of devices with applications in epilepsy, spinal cord injuries and other neurological disorders."

For instance, such a sensitive electrode could detect a seizure as it starts and deliver pulses to counter it. Brain signals might be routed to prosthetics for people with spinal cord and other injuries.

Silk is also transparent, strong and flexible, and it is possible to control the rate at which it dissolves.

New book urges reversal of DDT ban to fight malaria

REUTERS, Abidjan

Six years after the insect killer DDT was globally outlawed on grounds of environmental damage, two researchers say there are new reasons for doubting the chemical is harmful and are urging its use against malaria.

In a book which was launched recently, Donald Roberts, professor of tropical medicine at the U.S. military's Uniformed Services University of Health Sciences, and Richard Tren, head of lobby group Africa Fighting Malaria, argue that DDT is the only effective weapon against the deadly mosquito-borne parasite.

Environmental group Greenpeace defended the United Nations' aim of eventually eliminating DDT use worldwide and said evidence that it harms wildlife and human health was sound, even if not conclusive.

DDT's unprecedented power to kill insects won its inventor a Nobel prize in the 1940s and it was considered a wonder chemical until evidence emerged of its toxicity to wildlife and people, leading Western nations to ban it in the 1970s.

A treaty to forbid its use worldwide along with a dozen other industrial chemicals came into effect in 2004, but some countries like South Africa and Ethiopia still take advantage of tightly limited exemptions allowing indoor spraying.

Dichloro-diphenyl-trichloromethylmethane (DDT) has been blamed for birth defects in humans and threatening endangered birds such as the bald eagle by thinning their egg shells.

"There are an almost endless list of claims that DDT causes one kind of harm or another but ... with each claim, the evidence that the DDT is the cause is simply not there," Roberts told.

Meditation: A holistic approach to stay healthy

DR GOBINDA CHANDRA DAS

Health is not just absence of disease but it is a state of wellness in which a person enjoys physical, mental, social and spiritual health. Health is connected to the total well being of an individual. Apart from environmental and social factors, there are subtle factors that affect the health of a person. A clean and pure mind is a prerequisite for healthy life. A pure mind enables the use of time, energy and resources in the best way. Stress or negative thinking has been identified as a leading cause of quite a number of major illnesses.

Holistic health encompasses total health of a human being in all four aspects of life — physical health, mental health, social health and spiritual health. Meditation promotes health in all these areas of life. Meditation regulates the physical responses of the body by eliminating stress and stimulating healthy hormones. It creates self-control thus enabling a person to remain free from negative influences



and give the best in every role and situation. It empowers a person to deal with challenges in equanimity and positivity. Meditation alters the physiological and psychological response of the body remarkably. Reduction in heart and respiratory rate, and a drop in blood pressure suggest reduction in the level of sympathetic activity. Meditation aids the secretion of 'healthy' hormones such as endorphins and enkephalins, which help, in detaching oneself from various kinds of pains. Meditation helps sustain deep relaxation even during active states of mind. Brain wave recordings of Rajyogis have shown alpha and theta waves even while they performed various mental and intellectual tasks.

The benefits of meditation go beyond relaxation response. A number of studies have critically investigated meditation for effective treatment of hypertension, diabetes, headache, anxiety, depression and heart disease. Meditation reduces the requirement of medica-

tion for pain and sleep etc. It is reported to be effective in de-addiction from drugs; alcohol, tobacco and can increase decision-making skills, overcome irrational fears, phobias and expand spiritual life.

One of the most subtle but critical factors that affect health is quality of our actions. The law of action is infallible — you reap what you sow. If we use our body to perform good and right actions then we will enjoy good health. Body is the temple in which the divine self resides. If we treat our body well then it will perform well. The seed of good actions is pure feelings and thoughts; hence, we have to make a conscious choice to nurture only pure thoughts. Everything that we suffer through our body is a debt of bad action that the soul is paying off. To enjoy good health we have to accumulate a stock of good karma by sharing the qualities of peace, love and joy in every thought, word and action.

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Added sugar increases heart risks: study

REUTERS, Chicago

Eating a lot of sugar not only makes you fat. It may also increase a person's risk for heart disease, U.S. researchers said recently.

They said people who ate more added sugar were more likely to have higher risk factors for heart disease, such as higher triglycerides and lower levels of protective high-density lipoprotein or HDL cholesterol.

"Just like eating a high-fat diet can increase your levels of triglycerides and high cholesterol, eating sugar can also affect those same lipids," Dr. Miriam Vos of Emory School of Medicine, who worked on the study published in the Journal of the American Medical Association, said in a statement.

The addition of sweeteners to prepared foods and beverages in recent decades has sharply increased in daily intake of sugar and overall calories of people, according to Vos and colleagues.

But no major studies have looked at the impact of too much sugar on levels of fat in the blood. The researchers asked 6,000 adults what they ate and then grouped them by sugar intake and cholesterol levels. On average, nearly 16 percent of people's daily calories came from added sugar.

The highest-consuming group ate an average of 46 teaspoons of added sugar per day, while the lowest-consuming group ate an average of only about 3 teaspoons daily. "It would be important for long-term health for people to start looking at how much added sugar they're getting and finding ways to reduce that," Vos said in a statement.

Too much sugar not only contributes to obesity, but also is a key culprit in diabetes, high blood pressure, heart disease and stroke, according to the American Heart Association.

Simple measures to prevent diarrhoea

Diarrhoea is the most common clinical condition in hot atmosphere. Severe prolonged diarrhoea can lead to dehydration. With little precaution and safety measure we can manage the condition effectively.

Principle of management of diarrhoea

- i) First: Correction of fluid and electrolytes imbalance by ORS and intravenous saline
- ii) Second: Drug treatment. There are certain drugs like Ciprofloxacin, Azythromycin, Codeine, Lopiramide that is used under the recommendation of a physician.

Preventive measures of diarrhoea

1. Washing hands often, especially after going to the bathroom and before eating
2. Drinking of safe water and avoiding use of ice
3. Should not eat uncooked vegetables or fruits that do not have peels
4. Should not eat raw or uncooked meat
6. Should consume dairy products
7. Teaching of children to not put objects in their mouth

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When do we need scaling and polishing?

Our teeth become stained over time due to various food and also bacterial action. Other than stains, calculus (stones) develops due to food debris in the mouth and the build-up of calculus can cause gum swelling and infection. Scaling is done to remove calculus while polishing is to clean stains on tooth. This procedure helps keep the gum-tooth interface clean and healthy thus reducing the possibility of gum disease, swelling and bleeding.

Scaling means scraping away. You can scale old food, tartar, or even a fish bone caught under the gum. When our teeth require a thorough clean to remove all traces of plaque and tartar, a scalar (specialised instrument) is used to do so. It can remove what cannot be removed by simply brushing our teeth. The whole procedure is known as scaling.

To polish teeth, generally, a rotating brush or rubber polisher with prophylaxis paste/special toothpaste like

material is used to make the teeth shiny and more beautiful.

Scaling and polishing are needed on a regular basis. It is suggested that scaling and polishing should ideally be done at an interval of six months. It also helps prevent gum recession and gum diseases which are the main cause of shaky teeth and tooth loss, to facilitate screening for oral disease like cavities and decay.

Again, you must remove something caught under the gums before it causes more pain and swelling. Remove a piece of fish bone or piece of mango string now.

If the person has a mild gum problem (gums that bleed), wait a week or so before scaling. If the person uses this time to clean his teeth better and to rinse with warm salt water, the gums will improve. The person's teeth will be easier for you to scale, and he will learn that he can do much by himself to care for the gums.

Periodic tooth scaling is one of the most important methods to keep good oral hygiene and keep gums and teeth disease free. In general we should make tooth scaling and polishing two times yearly at minimum as many patients tend to form calculus in a very high rate. Those patients may need to make tooth scaling and polishing in shorter periods.

Having a regular scaling and polish will help you to maintain healthy teeth and gums. If your gums bleed when you brush your teeth, this may be the early signs of gum disease. Using regular scaling your dentist can help prevent gum disease from getting worse. This will also prevent bad breath, as this can be caused by gum disease. With regular professional care, a positive attitude and persistence, you can lead a healthy lifestyle and have a great confident smile always.

The write up is compiled by Dr Kazi Md Niazur Rahman, a dental surgeon working at Dhaka Dental College & Hospital.



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