

Malaria

Malaria is a mosquito-borne parasitic disease that can be life-threatening. They are transmitted to people through the bites of infected female Anopheles Mosquitoes. Symptoms of malaria usually appear in non-immune people 10-15 days after the infected mosquito bite. The first symptoms are fever, headache, muscle pain, diarrhoea, nausea, profuse sweating, deep breathing and respiratory distress, vomiting, bloody stools, high temperature and generally feeling unwell. However, some type of malaria parasite can lie dormant in your body for up to a year.

Because the parasites cause malaria to affect red blood cells, people can also catch malaria from exposure to infected blood, including: through blood transfusions, by sharing needles used to inject drugs and from a mother to an unborn child. In most cases, malaria deaths are related to one or more serious complications: including: Organ failure, low blood sugar, anaemia, breathing problems (Accumulated fluid in your lungs can make it difficult to breathe).⁽¹⁾

Central Africa has the most cases each year averaging hundreds of thousands of cases yearly especially in the tropical parts, most of those who die are children under the age of five. But some cases are also reported in Asia, South America, and the Middle East. The WHO African Region continues to carry a disproportionately high share of the global Malaria burden. In 2019, the region was home to 94 percent of all malaria cases and deaths. In 2019, 6 countries accounted for approximately half of all malaria deaths worldwide: Nigeria (23 percent), the Democratic Republic of the Congo (11 percent), United Republic of Tanzania (5 percent), Burkina Faso (4 percent), Mozambique (4 percent) and Niger (4 percent each)

There are five types of malaria which are: Plasmodium Falciparum, Plasmodium Malariae, Plasmodium Vivax, Plasmodium Ovale and Plasmodium Knowlesi. Each of them have similar symptoms. Vivax and Ovale have dormant liver stages. Falciparum is responsible for most of malaria related deaths in the world, Malariae, if not treated can cause lifelong chronic infection. There are over 400 types of mosquitoes. The mosquito that carries the malaria parasite is Anopheles mosquito.

Malaria is not a recent discovery as it has affected people for over 50,000 years. Malaria has had a few names in the past such as marsh fever or ague fever because of its association with swamps. The first discovery was in 1880 when Charles Louis Laveran, a French Army doctor who worked from Algeria noticed parasites in the red blood cells of the infected people. He announced that malaria was caused by this protozoan and this was the first time that it has been known to cause a disease. After some time it was suggested that mosquitoes were transmitting this disease to humans by a Cuban doctor, Carlos Finlay.

But it was Sir Ronald Ross from Britain that proved it in 1898 by showing certain mosquito species transmitting malaria to birds and later isolated malaria parasite from salivary gland of mosquito that feeds on infected birds. This discovery later helped him to become the Director of Malaria control efforts in Panama, Macaitus, Egypt and Greece. The works of Finlay, Ross, Celli and Marchifava saved thousands of lives and also helped develop methods used in future public health campaigns against the disease.

The Malaria Prevention Initiative spends over \$1 Billion a year to control Malaria. In 2005 President Bush pledged to increase U.S malaria funding more than \$1.2 billion over five years in order to reduce deaths by malaria by fifty percent in fifteen African countries. PMI has impacted more than six million Africans just from the method with four key components :indoor spraying of the homes with insecticides, lifesaving antimalarial drugs, mosquito nets, and treatment to prevent malaria in pregnant women.

Fighting Malaria is important as it can kill. In late 2016 almost half the world's population was at risk of catching malaria, there were around 212 million cases and an estimated 429,000 casualties.

Ways to prevent malaria from spreading further are: larger access to mosquito nets, wearing protective clothing, better treatment in vulnerable countries, better diets to strengthen immune systems, educate people on how to prevent or stop malaria and increase the amount of countries with the things they need to deal with malaria like insecticides.⁽²⁾

To avoid being bitten: If you are sleeping in an air conditioned room, sleep under an intact mosquito net that has been treated with insecticide, stay somewhere that has effective air conditioning and screening on doors and windows and close doors and windows properly, use insect repellent on your skin and in sleeping environments and reapply it frequently. The most effective repellents contain diethyltoluamide (DEET) and are available in sprays, roll-ons, sticks and creams and wear light and loose fitting trousers rather than shorts and wear shirts with long sleeves. This is particularly important during early evening and at night when mosquitoes prefer to feed.

However, Malaria can be difficult to stop as the parasite is highly adaptable and even if better medicines and preventatives are made the parasite could evolve to combat them. There are only approved vaccination for malaria is RTS, better known as Mosquirix however due to its low efficacy the WHO do not recommend it to newborns

Antimalarial drugs are a type of antiparasitic chemical agent that is aimed at malaria. The most common type of antimalarial drug is Artemisinin. Others include Chloroquine, Quinine, Hydroxychloroquine(Plaquenil),Artemether and Lumefantrine(Coartem),Atovaquone(Mepron) and more.(3)

A case study example for malaria is: Fever 6 months after a visit to Pakistan a 44-year-old man is seen at a physician's office in the United States, during a week-end, for suspected malaria. The patient was born in Pakistan but has lived in the United states for the past 12 years. He travels frequently back to Pakistan to visit friends and relatives.(4)

Malaria is one of the most dangerous diseases in the world killing 409,000 people in 2019 alone and killing 400,000 people every year worldwide and it's still killing people till now. To take precautions and not catch malaria you should go to a GP and receive the needed medication before travelling to any risky places. The WHO has averted 1.5 billion cases since 2000.

In order to help the fight against Malaria, I would suggest ensuring that the public are made aware of how to stop the spread of this deadly disease. Mosquito nets are cheap and easy to use which can be used widely. People can also use insecticides as these combat mosquitoes also and are very effective and if these can be provided to people in areas with high rates of malaria, it would help to control the spread of this dangerous disease.

1,Source:WWW.NHS.Com

2,Source:WWW.NHS.Com

3,Source: [WWW.Google antimalarial drugs.com](http://WWW.Google.antimalarial%20drugs.com)

4,Source:[WWW.Google.com Malaria Case study.com](http://WWW.Google.com%20Malaria%20Case%20study.com)