

# Malaria essay samples

[Parts of the World](#), [Africa](#)



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Malaria is a mosquito-borne infectious disease of human beings as well as other animals that is caused by parasitic protozoans belonging to the genus Plasmodium. This disease is prevalent in tropical as well as subtropical areas in a wide circle around the equator, including a large part of Sub-Saharan Africa, the Americas, and Asia.

Even though the agent for *P. falciparum* malaria has existed for 50, 000 to 100, 000 years, the population of the parasite did not rise until approximately 10, 000 years ago, at the same time with progresses in agriculture (Harper and Armelagos) together with the human settlements development. Human malaria parasites' close relatives are still common in chimpanzees. A number of evidence proposes that the origin of *P. falciparum* malaria may be from gorillas (Prugnolle, Durand and Ollomo). The disease was previously referred to as marsh fever or ague because of its relationship with marshland and swamps (Reiter). Malaria was, at one time, common in the majority of North America and Europe, but it is no longer prevalent, although imported instances do take place (Webb).

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Malaria used to be the most significant health hazard faced by U. S. military personnel in the South Pacific in the course of the Second World War, where approximately 500, 000 men became infected (Bray), and 60, 000 American troops lost their lives from malaria during the South Pacific and African campaigns (Byrne). Scientific research on malaria made its initial important progress in 1880, when Charles Alphonse, an army doctor from France in the Constantine military hospital, in Algeria, viewed parasites within the infected people's red blood cells for the first time. He, thus, suggested that this organism was the cause of malaria, the first time that a protist was keyed out as causing illness.

## **Transmission**

Malaria is exclusively transmitted via the Anopheles mosquitoes' bites. The transmission intensity is dependent on factors linked to the vector, the parasite, the human host, as well as the environment. Approximately 20 different species of Anopheles are locally significant worldwide. All the significant vector species usually bite at night. Anopheles mosquitoes, shown in figure 1, multiply in water, and every species has its own breeding predilection. For instance, several opt for shallow freshwater collections, like puddles, hoof prints and rice fields. Transmission is more extreme in areas where the lifespan of mosquito is longer for the parasite to have time for completion of its development within a mosquito, and where it opts for biting humans instead of other animals. For instance, the long lifespan as well as strong habit of biting human of the African vectors is the key reason for over 90% of the global malaria deaths being in Africa.

Figure 1: A picture showing a mosquito carrying the malaria parasite.

Transmission is as well dependent on climatic conditions, which can affect the survival and number of mosquitoes, like patterns of rainfall, humidity and temperature. In several places, transmission occurs in seasons, with the peak in and just following the rainy season. Epidemics of malaria can happen when climate, as well as other conditions, abruptly favors transmission in regions with people having little or no malaria immunity. They can as well happen when individuals with low immunity migrate into regions with intense transmission of malaria.

Human immunity is the other crucial factor, particularly among grownups in regions of intense or moderate conditions of transmission. Partial immunity develops over time with exposure, and it reduces the malaria infection risk. Because of this reason, majority of Africa malaria deaths happen in young children while, in regions with low immunity and less transmission, every age group is at risk.

## **Symptoms**

The malaria symptoms typically start 8–25 days after infection. Nevertheless, signs may happen later in individuals who have received antimalarial medications for prevention (Nadjm and Behrens). The disease's first manifestations are like flu-like signs (Bartoloni and Zammarchi) and may look like other conditions like gastroenteritis, septicemia, as well as viral diseases (Nadjm and Behrens). The presentation can include fever, retinal damage, headache, joint pain, shivering, vomiting, jaundice, hemolytic anemia, convulsions and hemoglobin in the urine (Beare, Taylor and Harding).

The classic malaria sign is paroxysm, a cyclical happening of abrupt coldness

after which shivering occurs and then sweating and fever, happening every three days for *P. malariae*, as well as every two days in *P. ovale* and *P. vivax* infections. Infection of *P. falciparum* may cause repeated fever every 36–48 hours (Ferri).

## **Occurrence**

It is estimated that, in 2010, there were 219 million malaria incidences causing 660, 000 deaths (Nadjm and Behrens). Others estimates are 350 and 550 million for falciparum malaria (Olupot-Olupot and Maitland) as well as 1. 24 million deaths in 2010 (Murray, Rosenfeld and Lim) an increase from 1. 0 million deaths in 1990 (Lozano). Many (65%) of these cases happen in children below 15 years (Murray, Rosenfeld and Lim). Approximately 125 million expectant mothers are at danger of infection every year. In Sub-Saharan Africa, maternal malaria is linked to up to 200, 000 approximated infant deaths annually (T., Rogerson and Fischer). There are around 10, 000 cases of malaria annually in Western Europe, and 1300 to 1500 in the U. S (Taylor, Hanson and Turner). Approximately 900 persons lost their lives to malaria in Europe between 1993 and 2003 (Kajfasz). Malaria is currently prevalent around the equator, in regions of the Americas, several parts of Asia, as well as much of Africa. In Sub-Saharan Africa, between 85 and 90% of malaria human deaths happen.

## **Treatment**

Malaria is usually treated with antimalarial medicines. The used medications rely on the type as well as severity of the disease. As fever's medications are normally used, their outcomes' effects are not clear (Meremikwu, Odigwe

and Akudo).

Malaria that is not complicated can be treated with oral medicines. The most effectual *P. falciparum* infection treatment is the use of artemisinins combined with other antimalarials, referred to as artemisinin-combination therapy that lowers any single drug component resistance (Kokwaro). These extra antimalarials include lumefantrine, amodiaquine, sulfadoxine/pyrimethamine or mefloquine. ACT is approximately 90% effectual in the treatment of uncomplicated malaria (Howitt, Darzi and Yang). For treatment of malaria during pregnancy, it is recommended to use quinine plus clindamycin in 1st trimester, and ACT in the 2nd and 3rd trimesters (Manyando, Kayentao and D'Alessandro).

Recommended severe malaria treatment is the use of antimalarial drugs intravenously. For severe malaria, artesunate is better than quinine in children as well as adults (Sinclair, Donegan and Isba). Severe malaria treatment involves supportive measures, which are best carried out in a vital care unit. These are the seizures and high fevers management. It also includes observation of poor breathing attempt, low blood potassium, and low blood sugar (Sarkar, Ahluwalia and Vijayan).

## **Conclusion**

Malaria is among the fatal diseases in the world especially in Africa. *P. falciparum* infection will in most cases lead to severe, potentially fatal complications. If not treated, *P. falciparum* malaria can kill within hours of infection. Hemolytic anemia, in which the bone marrow is incapable of keeping up with the pace of destruction of red blood cell resulting from the infection, may cause fatigue, pale skin, weakness as shown in figure 2, fast

heart rate, spleen enlargement, as well as shortness of breath. Cerebral malaria may also take place if infected blood cells close up the blood vessels going to the brain. Cerebral malaria may result in swelling of the brain as well as damage of the brain.

Figure 2: A picture showing a child suffering from malaria

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