

Malaria

Malaria is a deadly disease that is spread through a group of parasites called Plasmodium. This parasite is transmitted through female Anopheles mosquitoes and according to WHO (World Health Organisation) in 2017 there were around 219 million spread across 87 countries. In 2017, nearly half of the world's population was at risk of malaria {1}. Since mosquitoes live in hot and humid conditions, areas with similar conditions have higher risks. There are a lot of symptoms and if not cured within the first 24 hours, it could lead to death. This is a big problem with Malaria cases since the symptoms don't start showing until 10-15 days after the mosquito infects you. The symptoms of Malaria include, high temperature, vomiting, headache, muscle pains, shivers, feeling hot, diarrhoea and generally feeling unwell. We need to work quickly to try to get rid or at least decrease the malaria cases and deaths in West Africa. West Africa is especially in danger as it is filled with conditions that mosquitoes like to live (e.g tropical conditions, swamps etc). It is also filled with LIC's (low income countries) which may not have enough money to access the materials like other countries . This is why the cases are rising and need to be stopped.

Malaria devastated the world in 2017 when the outbreak transpired. We have to prevent the outbreak from happening since, if it's not dealt within the first 24 hours of being infected, it could lead to life threatening symptoms. There is no way to ensure you have Malaria apart from getting a diagnostic test to ascertain the cause of you developing it. Another reason we have to prevent the outbreak is that it could spread into low-income countries where there would be an exponential number of deaths compared to High income countries (HIC's). This is because they do not have the facilities to take these safety precautions and may not have access to expensive equipment to reduce the spread. Plasmodium in the blood can be transferred to the mosquitoes. This would lead to the mosquito biting a new host and infecting them.

Malaria is difficult to stop as it is spread through a vector. This means the vector and parasites involved have the ability to adapt. Also, mosquitoes are developing resistance and in comparison to other insects are better at surviving against antimalarial and insecticide medication and are still improving. This is because of the vector and constant development of the Plasmodium parasite. Another reason is that mosquitoes are airborne meaning they travel through air. This makes them harder to deal with since you can breathe in the airborne organism and it will build up residence inside you. Diagnostic tests can't detect the low infection levels. This means that if you have just been infected, a diagnostic won't be of any use and will fail to detect any infection. These need to detect low levels of infection because malaria leads to life threatening symptoms if not dealt with in the first 24 hours and symptoms don't start showing until 10-15 days into development. These reasons are especially dangerous to Low Income Countries (LIC's) as they might not be able to access the antimalarial and insecticide medication. A vaccine that conformed to the 2015 objective, providing protection to half of those vaccinated, would be valuable as part of an integrated control programme alongside vector control and chemo-preventative measures {4}. This source is reliable as it has the authors names and is on Google Scholar. Google Scholar is not supported by editorial so it cannot be altered by or edited by anyone.

There are different ways to prevent Malaria. Things like mosquito nets and insect repellents. There's currently no vaccine available that offers protection against malaria, so it's very important to take antimalarial medication to reduce your chances of getting the disease {2}. This source is reliable since it was made from the NHS (National Health Service). They are made by professionals of the topic. Also, there is no way that another person could go and alter the site's description and resources. Also, it is the official NHS website.

Reducing the spread of Malaria would be difficult since it is not communicable and a lockdown on the country would not benefit the situation. It is not communicable since it can only be transferred from the Anopheles mosquito to human host. A human infected with malaria is unable to pass it on to another human host. A way to reduce the spread is by spraying indoors with insecticide spray. All buildings should be sprayed with insecticide spray to reduce the number of mosquitoes which may carry malaria. All buildings must have working air conditioning at all times so that the area isn't damp and warm. This is because mosquitoes are attracted to tropical like environments. This is why West Africa's cases are rising exponentially and we need to stop it as soon as possible. This would be effective as the mosquitoes will not want to stay in the environment. Distribute nets around buildings. This will catch the mosquitoes and reduce the spread of malaria. Only a few disadvantages to mosquito nets exist. If they become torn, they are hard to repair and can make a person vulnerable to mosquitoes {3}.

Since the malaria's parasite is constantly changing, there is no way the body is able to develop immunity and become resistant to antimalarial drugs or medicines. Some people have developed immunity but there is no full immunity. All who have been immune lost their immunity shortly after, they gained partial immunity. To *achieve sustainable control over malaria, healthcare professionals will need a combination of new approaches and tools* {5}. *This means that professionals cannot just take one approach to tackling malaria. There are no author credentials but the source's context is valid. There are also comments at the bottom which are showing positive comments.*

In conclusion, malaria is really difficult to stop since it spreads through a vector meaning that the mosquitoes may be becoming more resistant to insecticide sprays and antimalarial drugs. Ways to prevent malaria include mosquito nets, insecticide sprays and keeping buildings the correct temperature, especially in West Africa. LIC's are especially vulnerable to malaria spread since they might not have money to buy the required equipment and may not be able to screen potential hosts. Malaria can lead to life-threatening symptoms if it's not dealt with within the first 24 hours. Also, you don't start showing symptoms until 10-15 days after you have been infected so you are never sure if you are developing malaria. Diagnostic tests cannot detect low levels of infection so most patients develop the life-threatening

symptoms· *Symptoms of malaria are* high temperature, vomiting, headache, muscle pains, shivers, feeling hot, diarrhoea and generally feeling unwell. The 2017 outbreak was a terrible event where nearly half of the world's population was in danger of catching malaria, estimated by the World Health Organisation (WHO). Plasmodium in blood can be transferred to the mosquito and this mosquito can give it to another host it bites.

We need to work together to fight this disease by helping to deliver information to people about how to stop the spread. This is can be done by delivering sessions or workshops and also to provide them with the items they need such as nets (cheap and easy to distribute) and also insecticides.

References

1. Scholars Booklet
2. NHS official website (<https://www.nhs.uk/conditions/malaria/prevention/>)
3. <https://goneoutdoors.com/pros-cons-mosquito-nets-5379210.html>
4. Targett, G.A. and Greenwood, B.M., 2008. Malaria vaccines and their potential role in the elimination of malaria. *Malaria Journal*, 7(S1), p.S10.
5. <https://www.niaid.nih.gov/diseases-conditions/malaria-strategies>