THE AAS IMPACT

DELTAS Africa: African scientists lay the ground work for new malaria vaccines

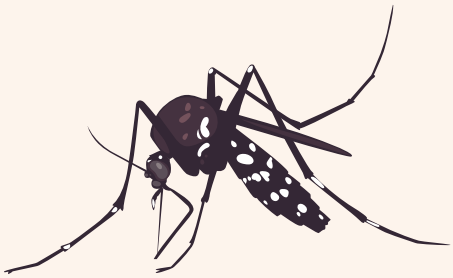
DELGEME at a glance

The Developing Excellence, Leadership and Training in Science in Africa (DELTAS Africa), a programme of The African Academy of Sciences, supports the Mali based Developing Excellence in Leadership and Genetics Training for Malaria Elimination in sub-Saharan Africa (DELGEME), which aims to enrich the pool of African Scientists working in African institutions with relevant expertise to leverage big genetics and genomics data in the drive for malaria elimination in sub-Saharan Africa. Its Training Program aims to develop advanced technical and analytical skills of African scientists in relevant areas of Bio-informatics, next generation sequence analysis, population genetics, epidemiology, statistical and cellular, and molecular biology in collaboration with local and international partners for malaria control and elimination in sub-Saharan Africa. DELGEME funds Senior Researchers as well as Masters, PhD and Postdoctoral Fellows.

Background

Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. 93% of the 435,000 human deaths reported globally are in Africa. Though it is a preventable and curable disease, current medical interventions are unable to prevent transmission and recurrent episodes, which is a huge challenge.

The emergence of multidrug resistance, including resistance to artemisinin and partner drugs, is a public health concern threatening the sustainability of the ongoing global effort to reduce the burden of malaria.



435,000

people die from malaria yearly

Description of study

A Postdoctoral Fellow from DELGEME conducted a study in Mali to understand the biological mechanisms underlying parasitic transmission through identifying Plasmodium factors influencing the infectivity of parasites in the mosquito.

The study shed light on the 14 parasitic proteins associated with parasitic transmission in malaria. Thus, it provides potential biomarkers for assessing malaria transmission. These biomarkers can be used in turn to determine the impact of transmission-blocking strategies in malaria-endemic areas. Once the function of these proteins has been characterized, it can be used as a target for the development of antimalarial drugs or vaccines.

Anticipated outcomes

- The study will enable new drugs and vaccines to be developed that will have the potential to block the transmission of malaria.

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