Drug-Resistant Malaria Threat in Bangladesh

Malaria cases in Bangladesh have declined 50% since 2010, but an estimated 13 million people are still at risk of contracting this parasitic disease. Compounding this, Bangladesh is now facing the threat of malaria parasites that are resistant to the WHO-recommended first- and second-line treatment: artemisinin combination therapies (ACTs).

Malaria parasites partially resistant to artemisinin were first detected in 2009 and continue to spread westward from Cambodia. Increased population movements within the region, in particular the recent influx of displaced people from neighboring regions into Bangladesh, contribute to the rising threat of drug-resistant malaria.

In an interview with BVGH, Dr. Mohammad Shafiul Alam discussed the malaria landscape in Bangladesh and his fellowship experience.

Q&A

How did you become interested in malaria research?

Malaria is endemic in Bangladesh. Thankfully, over the last few years, we have seen the number of malaria cases across districts decline due to expanded mosquito control and access to effective antimalarial drugs.

At the same time, we are now dealing with the threat of drug-resistant malaria. When the most widely used drug to treat malaria is no longer found to be highly effective, we as a global community have a serious problem. My research focuses on assessing the current status of drug resistance in the Chittagong Hill Tracts of Bangladesh.

Why is drug-resistant malaria such a concern in Bangladesh?

Drug-resistant malaria is spreading across Southeast Asia, and in recent years, we have seen its emergence in neighboring countries. Given that mosquitoes do not honor country borders and the number of people from neighboring countries entering ours is rising, including refugees, Bangladesh is at risk of drug-resistant malaria.

How do we tackle this problem?

We need new antimalarial treatment options that are effective against resistant strains. But, to get these novel therapeutics, we need to collaborate with international partners who have the know-how and resources needed to quickly advance drug discovery.

How do international collaborations play a role in solving global health challenges?

In Bangladesh, we have motivated researchers, and we are building laboratory capacity, but we don’t have the most cutting-edge equipment and accompanying technical know-how. If we can get training and practical experience in a more advanced laboratory, we can enhance our research. Collaborations with researchers help us gain this experience.

Why did you want to participate in the WIPO Re:Search Fellowship program?

I thought the program would be an excellent opportunity to learn new skills and insights that would allow me to continue our institute’s important research on antimalarial development in areas where it’s needed most. The WIPO Re:Search Fellowship program provided the perfect opportunity to advance research and catalyze collaborations with external researchers.

Can you describe your fellowship collaboration?

I was fortunate to work with Prof. Kathy Andrews and Prof. Vicky Avery at GRIDD. Our collaboration focused on developing new antimalarials from natural products — in other words, plant sources. This involved learning new drug discovery skills such as screening, extraction, and purification of the natural products.

I recently received an Adjunct Research Fellow appointment at GRIDD. This will help us to continue the collaboration and hopefully be successful in finding a new drug candidate to treat drug-resistant malaria.