

Climate change could enlarge malaria areas in SA

There has been much speculation, especially on social media, about three women who died of malaria in the Tshwane region – none of whom had been to a malaria-endemic area.

Both the National Department of Health (NDoH) and the National Institute of Communicable Diseases (NICD) are busy investigating the cases to determine the source of the disease.



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In addition, the University of Pretoria Institute for Sustainable Malaria Control (UP ISMC) is busy with research on malaria vectors (mosquitoes), malaria parasites and human health.

It has a trans-disciplinary approach towards malaria control and eventual elimination, with a strong focus on new innovations for malaria prevention.

Climate change

One challenge is the potential increase in malaria risk due to climate change. The distribution of malaria in 1938 included epidemic malaria occurring as far south as Pretoria and beyond Durban.

With climate change, the chance exists that South Africa may become more [susceptible to malaria transmission](#), even reintroducing the disease in malaria-free areas. This raises the question if malaria would ever occur naturally in Pretoria again?

The institute is not only looking at cross-border movement, but are also doing work on climate change and environmental factors affecting malaria, says Prof. Tiaan de Jager, director of the UP ISMC.

A project, using remote sensing for malaria control in collaboration with the SA Weather Services and the French National Space agency (CNES), will focus on all these factors.

Travelling malaria

Gauteng Province is not one of South Africa's malaria endemic areas. The disease is usually confined to low-lying areas of Limpopo, Mpumalanga and north-eastern KwaZulu-Natal (KZN).

Nonetheless Gauteng does have high number of malaria cases annually and each year there are deaths reported in the province due to malaria.

In 2014, there were a total of 1,929 malaria cases reported in Gauteng and a total of 28 mortalities due to the disease. These numbers were the third highest amongst all the provinces in South Africa, and were even higher than that reported in KZN.

The origin of these cases is often identified as travelling malaria. When an infected anopheles mosquito is transported from a malaria area to a non-endemic area in a traveller's suitcase or in a vehicle.

In other cases, people are infected when they have visited a malaria endemic area and often only start showing symptoms once they are home, in many cases a non-endemic area.

Malaria incidence in South Africa is impacted by the number of imported cases from neighbouring countries. A total of 69% of all the malaria cases (6,847 cases) reported in South Africa from January to December 2012 were imported from Zimbabwe and Mozambique.

Creating awareness

Awareness of the disease and the risks associated with it, especially in high risk areas, is the first step towards prevention. People need to be made aware of the disease to protect themselves, even if they do not live in an endemic area.

Malaria presents itself as bouts of fever accompanied by cold or flu-like symptoms, alternating with periods of absence of feeling sick. Intermittent symptoms include headache, malaise, fatigue, nausea, muscular pains, chills and even diarrhoea.

People in endemic areas or those who have recently visited such an area should consult a physician or healthcare practitioner immediately when these symptoms appear especially during the malaria months. Symptoms of complicated or severe malaria include delirium, generalised convulsions, impaired consciousness and respiratory distress.

Malaria Buddy app

The UP ISMC released an app – [Malaria Buddy](#) - in collaboration with Travel with Flair in 2016. The first phase of the app was very basic with information on the disease, how to prevent getting sick and what to do if you suspect you have malaria.

However, the institute is currently busy working on phase 2, which uses GIS technology to transform the app into a GPS of malaria hot spots and treatment options, simply by using the phone's location.

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