

OPINION PIECE

World Malaria Day: UP expert on keeping up the fight against malaria amid COVID-19

By Dr Taneshka Kruger, Project Manager: University of Pretoria Institute for Sustainable Malaria Control (UP ISMC)

Malaria remains a major public health concern globally and, despite COVID-19-related challenges, the World Health Organisation (WHO) has stressed that malaria services continue as usual. In light of World Malaria Day on 25 April, it is worth emphasising the need to continue to address the burden of the disease in the face of the current global health crisis.

With adequate investment and the right mix of strategies, we can indeed make remarkable strides against malaria. Prof Tiaan de Jager, Director of the University of Pretoria's Institute for Sustainable Malaria Control, also emphasised that efforts to combat this complicated disease should not be halted in a time where the focus is on fighting the COVID-19 pandemic. This could set us back tremendously and put further strains on health systems and national malaria programme budgets.

According to the Global Fund, COVID-19 could impact negatively on communicable diseases, and while the level of impact to expect is unknown, experience with disease outbreaks in the past has provided a reality check on the potential disruptive effects on health systems and the consequential impact on a disease such as malaria.

Even though both preventable and treatable, malaria still results in the deaths of nearly half a million people globally each year. The burden of the disease in Africa is very high and health systems are struggling as it is – a widespread pandemic such as COVID-19 could cripple the continent's fragile health care systems, with increasing fears that the virus could impact the fight against malaria.

Of the 228 million global malaria cases reported in 2018, an estimated 213 million (93%) were from Africa. By roughly comparing malaria-endemic African countries in 2017 with the most recent COVID-19 case numbers on the continent, it is clear that Africa has a potential crisis on its way.

Lockdowns are being imposed across the continent to try to stop the anticipated uncontrollable spread of COVID-19. By flattening the curve of infection, a lockdown aims to free up health services for other challenges, such as malaria. But lockdowns in African countries are challenging and, along with other COVID-19 prevention methods, do impact on malaria as a disease.

Malaria in South Africa

In SA, about 5,7 million people are at risk of contracting malaria. Risk areas include the north-eastern parts of Limpopo, Mpumalanga and KwaZulu-Natal which are near the borders of neighbouring countries Mozambique and Zimbabwe. According to WHO's 2019 World Malaria Report, SA reported 9 540 cases (5 742 imported) and 69 deaths in 2018. Although malaria is seasonal in this country, more and more cases have been reported in the winter months.

Malaria vs COVID-19

COVID-19 does not discriminate when it comes to age and race, nor does SARS-CoV-2, which can infect people of all ages. However, those with pre-existing medical conditions appear to become more severely ill. Similarly, anyone can get malaria, but people with little or no immunity – young children, pregnant women and those from non-endemic areas – are more likely to become very sick and die. Poor people living in rural areas who lack access to health care are at even greater risk. Children, mostly under the age of five and from rural areas in Africa, accounted for 272 000 (67%) of the 405 000 estimated malaria-related deaths in 2018.

Until now the most severe COVID-19 outbreaks around the world appear to be in cooler, drier areas. However, the novelty of the virus makes it unpredictable with regards to seasonal changes – WHO states that up to now SARS-CoV-2 can be transmitted in all areas. As for malaria, climatic conditions impact its geographic distribution. *Anopheles* mosquitoes frequent warm areas with humid conditions and high rainfall, and *Plasmodium* parasites require warm temperatures for the parasite-vector part of their lifecycle. This means that changes in climate may change seasonal patterns and could impact on the occurrence of malaria.

Both COVID-19 and malaria know no borders. However, the movement of malaria across borders poses a challenge towards achieving malaria elimination. South Africa aims to eliminate malaria – zero transmission – by 2023. Out of all SA's cases in 2018, 5 742 were identified as imported. Malaria prevalence is often higher in border areas mostly due to the continuous movement of inhabitants seeking better health services in an area where often-difficult terrain affects the infrastructure required for prevention and treatment programmes.

The onset of both diseases usually has a short incubation period after infection: two to 14 days for COVID-19 and 10 to 14 days for malaria. Symptoms for both start off mild and can rapidly become more severe. It is imperative that a person with malaria symptoms – which are flu-like: fever, headache, malaise, chills, fatigue, nausea, vomiting, body pains, diarrhoea – gets immediate treatment. Though locals often deem malaria as less important as there are more important basic survival challenges.

In rural areas, people often need to walk quite a distance to a clinic for treatment. These areas also don't have major convenience stores – people frequent spaza shops for the bare necessities. During lockdown, only licensed spazas are exempt, so many need to travel long distances to busy towns where the easier spread of COVID-19 is possible.

Malaria vs methods to avoid COVID-19 spread

The first mode of prevention against COVID-19 is regular handwashing with clean water, or using hand sanitiser. The challenge for those in rural malaria-endemic areas is that often they cannot afford to purchase even the bare necessities, including malaria-preventative items (like repellent and mosquito coils), let alone hand sanitiser. Also, access to clean, treated water is often available only through collection from communal taps. Puddles of water around these taps are a breeding ground for mosquitoes, as do uncovered containers stored near homes.

The rapid spread of SARS-CoV-2 has been attributed to the movement of people with no or mild symptoms, hence the call for social distancing. But remaining at home may increase the risk of malaria. Overcrowding often occurs, which may attract mosquitoes to the higher concentrations of carbon dioxide. As in many rural African villages, cattle kraals or other domestic animals are located near or next to homes. These animals may lure opportunistic mosquito feeders towards the homes.

The take-home message is to keep in mind that even though COVID-19 is changing life as we know it, malaria remains a deadly disease that impacts on a large number of people annually across the globe, in most cases the poorest of the poor.

For more information on malaria visit www.malaria.up.ac.za.

For coronavirus updates from UP, visit www.up.ac.za/coronavirus-updates or check our social media pages.

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on the Hatfield Campus, Pretoria. This 112-year-old institution is also the largest producer of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country that has a Faculty of Veterinary Science which is ranked top in Africa, and overall has 120 academic departments, as well as 92 centres and institutes, accommodating more than 55 000 students and offering about 1 100 study programmes.

UP is one of the top five universities in South Africa, according to the 2019-2020 rankings by the Center for World University Rankings. It is also ranked among the top 100 universities worldwide in three fields of study (veterinary science, theology and law), and among the top 1% in eight fields of study (agricultural sciences, clinical medicine, engineering, environment/ecology, immunology, microbiology, plant and animal sciences and social sciences).

In June 2019, the annual UK Financial Times Executive Education Rankings once again ranked GIBS as the top South African and African business school. The University also has an extensive community engagement programme with approximately 33 000 students involved in community upliftment. Furthermore, UP is building considerable capacities and strengths for the Fourth Industrial Revolution by preparing students for the world beyond university and offering work-readiness and entrepreneurship training to its students.

As one of South Africa's research-intensive universities, UP launched the *Future Africa Campus* in March 2019 as a hub for inter- and transdisciplinary research networks within UP and the global research community to maximise 4IR innovation and address the challenges and stresses our continent and world is facing. In addition, UP also launched the Javett Art Centre in September 2019 as a driver of transdisciplinary research development between the Humanities and other faculties. In 2020 UP will launch Engineering 4.0. as a hub not only for Smart Cities and Transport, but also to link the vast resources in technology and data sciences to other faculties via Future Africa. These initiatives are stimulating new thinking at the frontier of 'science for transformation'.

For more information, go to www.up.ac.za