**[Mosquito attack](https://www.dawn.com/news/1848080/mosquito-attack)**

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A DISTRESSED colleague called me about what started out as an acute fever, but which progressed, within days, to pain in all the muscles. He was troubled with pain and swelling of almost all the joints of his hands, shoulders, wrists, knees, feet, and back, to the extent that he was unable to get out of bed because of severe, constant pain, “as though somebody had pummelled my body with sticks and stones”. He took analgesics and plenty of fluid and rested in bed, hoping that the awful symptoms would go away, but they continued, week after week. One month into the episode, he could barely sit in a chair or hobble to the bathroom.

This bizarre syndrome is caused by the Chikungunya virus (CHIKV), spread by the same mosquito species called Aedes aegypti, which transmits several other viruses. In 2016 in Pakistan, there was an outbreak of chikungunya when many patients presented with fever, rash, and pain in the muscles and joints; most people recovered quickly to their original state of health, while others suffered the pain for several weeks but ultimately recovered. Chikungunya has made a comeback, but since most viral infections appear alike, it is difficult to diagnose or make a prognosis. In the case of my colleague, the disease was exceptionally severe and protracted, requiring heavy doses of analgesics and even steroids to provide relief.

Dengue hit the news in 2005 when thousands of people of all ages presented with sudden fever and pain in the back and legs. When their blood was tested, physicians were amazed to find platelets that dropped below average and then scaled back to pre-infection levels over a week or two. Very few progressed to bleeding or shock or required intensive care and platelet transfusions.

We now know four dengue viruses belonging to subgroups (serotypes) 1, 2, 3, and 4. Surprising information evolved: if one has had dengue 1 in the past and later gets dengue with a different serotype, the body’s immune system goes into overdrive, and the outcome can be severe. Over the years, more people are getting infected with other serotypes and suffer more complications, often requiring hospitalisation and blood or platelet transfusions.

A clean environment alone can save us from many diseases.

In 2015, an unsettling problem was reported in Brazil: many women were delivering babies with small heads (microcephaly). Their blood tests revealed the presence of a virus called ‘Zika’. This was alarming and traced to the mosquito species responsible for carrying the dengue and chikungunya viruses. Zika also presents with fever, headache, body pain, a rash, and red eyes. Most people would not be diagnosed without lab tests since it is not clinically distinguishable, and most recover without complications. However, if a pregnant woman gets zika, the newborn is likely to be born with a small head (microencephaly), brain defects, or other malformations, and the mother suffers complications of pregnancy.

In Pakistan, lab tests have identified a few patients with zika; it is not known to what extent it is prevalent at this time, but given the ubiquity of the Aedes mosquito, rapid air travel, and global warming, it would be no surprise if zika, too, rears its head. Pakistan, with a high burden of mosquitoes, coupled with an exceptionally high birth rate, will be significantly affected by children born with congenital defects.

While chikungunya, dengue and zika all present with similar symptoms, only blood tests reveal the true nature of the infection. Treatment for all three remains supportive with fluids, temperature control, and rest. If complications ensue, they should be managed by experienced physicians.

Clouds of mosquitoes buzz overhead, but only the bite of a female mosquito is responsible for these infections. The male lives only to procreate. The long-legged, black-and-white striped creature looks for its prey at sundown; its sharp lance pierces the skin to inject virus-laden secretions and sucks up blood. If the victim’s blood contains the virus, the mosquito reinjects it into the next victim. The deed accomplished, the female flies to find a clean haven of water, lay eggs that hatch over a week or more, and restart the cycle of life. The hardy eggs can survive dryness, humidity, and extremes of temperature.

As our population carries the burden of numerous other infectious diseases, these viruses add another bane to the health of our hapless citizens. Citizens must protect themselves against mosquitoes, but environmental cleanliness alone can save us from these and many other public health diseases.

Once again, our misgovernance is responsible for the profusion of such nasty flying creatures.

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