2.2 Dengue

Dengue is caused by infection with one of the dengue viruses (*Orthoflavivirus dengue*, serotypes 1-4), belonging to the family *Flaviviridae (4)*. Although most people infected with dengue virus will not have symptoms, those who do typically experience abrupt onset high fever, body aches, arthralgia, retro-orbital headache, rash, and nausea. If symptoms occur, they usually begin 4–10 days after infection and last for 2–7 days, starting with a febrile phase, after which most patients will recover (Figure 2-1)*(5)*. Other patients, often with increased capillary permeability, will enter the critical phase around the time of defervescence (fever reduction) on the 4th-5th day of illness, when warning signs become evident and when worsening of symptoms, organ dysfunction, and occasionally severe bleeding can occur; however, not all patients with severe dengue will have warning signs.

Severe dengue can be fatal, and patients need care in a hospital for careful fluid management and to address complications of infection *(6)*. Following the critical phase, patients typically enter the recovery phase with reabsorption of extravascular fluid. Most patients will recover in 1–2 weeks.

The risk of developing severe dengue increases when a person is infected with a second dengue virus serotype months to years after the initial infection. Risk can also be increased in patients with concomitant comorbidities or other conditions such as pregnancy, young age (particularly infants and young children) and advanced age. There are no known specific antiviral treatments for dengue virus infections. Medications can be used to manage pain and fever. However, non-steroidal anti-inflammatory drugs are typically avoided because of the risk of bleeding complications. Prevention of dengue hinges on avoidance of mosquito bites and community-level mosquito vector reduction.

Vaccines have been developed and received stringent regulatory approvals. Use of vaccines, however, has been limited to date *(7)*.

Reported dengue cases have increased markedly in the past decade, with cases roughly doubling annually since 2021. Globally, 136 countries or territories have reported current or prior autochthonous dengue transmission. In 2024, over 14.2 million dengue cases were reported to WHO, including 7.5 million confirmed cases, over 52 000 severe cases and more than 10000 deaths *(8)*. Most cases have been reported from the Region of the Americas where arbovirus surveillance is more consistent and robust than other Regions and all four dengue subtypes circulate *(9)*. Most cases are reported from Brazil, and all member states except Canada have reported prior autochthonous dengue transmission.