



Dengue Disease Bulletin A Disease Awareness Campaign for Pediatricians



(A Joint Statement by the Philippine Pediatric Society and the Pediatric Infectious Disease Society of the Philippines)

The Philippines is continuously facing an alarming rise in dengue cases at the present time. Reported through the Philippines Integrated Disease Surveillance and Response (PIDSR) system, there have been 106,630 dengue cases in the country from January 1 to June 29, 2019, reflecting an 85% increase in cases compared to 2018. There were 456 reported deaths for this period, giving a case fatality rate (CFR) of 0.43%, with the greatest number of both cases and deaths seen in the 5-9-year age group. While this CFR is lower compared to the rate in the previous year (0.55%), it is still higher than the average 0.22% CFR in the Western Pacific region. The regions that have been most affected are II, IVA, V, VI, VII, VIII, IX, XII, BARMM, and NCR, while the provinces that have already declared an outbreak and seek access to calamity funds include Iloilo, Capiz, Aklan, Antique and Guimaras in the Western Visayas.¹ It has recently been reported that a number of provinces are already seeing dengue way beyond an epidemic threshold.

Dengue is a viral illness transmitted to humans thru the bite of an infected mosquito, *Aedes aegypti*. Most infections are asymptomatic, but is often suspected when high fever associated with two or more of the following symptoms are present: headache, pain behind the eyes, muscle and joint pains, marked body weakness, significant loss of appetite, nausea, vomiting, diarrhea, or a rash, which is usually seen on the lower limbs, arms, and trunk. Physicians should be vigilant in recognizing the following 'warning signs': persistent vomiting, abdominal pain or tenderness often on the right upper quadrant, clinical fluid accumulation (abdominal enlargement, difficulty of breathing or decreased breath sounds on auscultation over the right lung field), mucosal bleeding such as profuse gum or nose bleeding, lethargy, restlessness, liver enlargement, and an increase in hematocrit with or without a decreasing platelet count.^{2,3} A potentially lethal complication of the disease known as severe dengue occasionally develops. This is characterized by severe plasma leakage leading to shock and fluid accumulation, severe bleeding, and organ impairment.

While there is no specific anti-viral treatment, early recognition and prompt access to medical care lower mortality rate.² Among hospitalized patients, judicious use of intravenous fluid should be observed as over hydration places the patient at risk for pulmonary edema and other grave complications.^{3,4} Local guidelines (the PPS "Revised Guidelines on Fluid Management of Dengue and Dengue Hemorrhagic Fever 2012" and

PIDSP's "*Clinical Practice Guideline on Dengue for Children*") on fluid management of children with dengue are available and can be accessed through <https://www.scribd.com/doc/316006977/PPS-Revised-Dengue-Guidelines-Fluid-Management-Oct-2012>; http://www.pidsphil.org/home/wp-content/uploads/2017/06/2017_Dengue_CPG_Final.pdf.^{5, 6}

An effectively implemented and sustained vector control measure is one key strategy for dengue prevention. As the number of dengue cases in the country continues to escalate, the Department of Health (DOH) constantly reminds the public to practice the '4S against Dengue' that includes the following strategies: (1) Search and Destroy: eliminate mosquito larvae breeding sites in your surroundings and cover containers with collection of stagnant water; (2) Self-Protection Measures: use mosquito repellent and cover yourself up to avoid mosquito bites; (3) Seek Early Consultation: consult a medical specialist at once for fever and rash of 2 days duration; and (4) Say No to Indiscriminate Fogging: fogging only during outbreaks.⁷

Another integral component in the global strategy for Dengue prevention and control is vaccination.² In April 2019, the World Health Organization has included the Dengue vaccine in the Model List of Essential Medicines for Children recommended for use in certain high-risk populations. Based on currently available data, the vaccine has been proven safe and efficacious most especially to those who had prior dengue infection. Unfortunately, this vaccine is no longer available in the country.

Some activities that clinicians can engage in to augment the health department's efforts in disease control include:

1. Early recognition and timely management of dengue cases
 - Watch out for warning signs in suspected patients.
 - Close monitoring of patients' clinical condition (i.e. vital signs, urine output, peripheral pulses, level of consciousness) especially during the critical phase of the illness.
 - Judicious administration of IV fluids. Know when to decrease or stop IV hydration.
 - Refer to a higher level of care (preferably in centers with intensive care units) when necessary.
 - Coordinate with specialty societies who can provide training of health workers in the recognition and management of cases.
2. Engage in hospital and community activities that promote the education of patients and caregivers on dengue prevention:
 - Proper waste disposal and eliminating possible breeding habitats for mosquitoes.
 - Regular cleaning, emptying and covering of water containers.
 - Practice personal protective measures: screening of doors and windows, use of mosquito nets, wearing appropriate clothing (e.g. jogging pants, long-sleeved shirts), use of insect repellents,

- Active surveillance and reporting of cases.

Lastly, for those children who were previously given partial (1-2) or complete (3) doses of the dengue vaccine, the same precautions are advised, since just like any other recommended vaccine, it may not provide 100% efficacy or protection.

A coordinated effort from the different sectors is needed to battle this pervading disease. The Philippine Pediatric Society and the Pediatric Infectious Disease Society of the Philippines (PIDSP) are in support of making the vaccine available to individuals who will benefit best from this. Likewise, the society through its module on pediatric dengue diagnosis and management can help increase disease awareness among physicians. Visit www.pidsphil.org for more information.

REFERENCES

- 1 WHO Representative Office for the Philippines. Philippine Situation Report 1. Dengue Outbreak. 16 July 2019. [cited August 3, 2019]. Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/WHO%20PHL%20SitRep1_Dengue%20Outbreak_16Jul2019_original.pdf
- 2 WHO Fact sheets. Dengue and Severe Dengue. 15 April 2019. [cited August 3, 2019]. Available from: <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>
- 3 WHO. Global Strategy for Dengue Prevention and Control 2012 – 2020. [cited August 3, 2019]. Available from: https://apps.who.int/iris/bitstream/handle/10665/75303/9789241504034_eng.pdf
- 4 WHO. Dengue Guidelines for Diagnosis, Treatment, Prevention and Control: New Edition, 2009. [cited August 3, 2019]. Available from: https://apps.who.int/iris/bitstream/handle/10665/44188/9789241547871_eng.pdf?sequence=1
- 5 Philippine Pediatric Society. Revised Dengue Guidelines Fluid Management Oct 2012. [cited on August 3, 2019]. Available from: <https://www.Scribd.com/doc/316006977/PPS-Revised-Dengue-Guidelines-Fluid-Management,Oct.2012>
- 6 Philippine Pediatric Society and the Pediatric Infectious diseases Society of the Philippines. Clinical Practice Guidelines on Dengue in Children 2017. [cited August 3, 2019] Available from: http://www.pidsphil.org/home/themencode-pdf-viewer/?file=http://www.pidsphil.org/home/wp-content/uploads/2017/06/2017_Dengue_CPG_Final.pdf
- 7 Department of Health Philippines. DOH Reminds Public to do the 4s against Dengue. [cited August 3, 2019]. Available from: <https://www.doh.gov.ph/node/16849>