

Acute encephalitis syndrome (AES)

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In news

Bihar has performed well in providing tap water supply to rural households in its 15 JE-AES priority districts.

Key updates

- The five states with JE-AES-affected priority districts are Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal.
- The Jal Jeevan Mission (JJM) has provided tap water supply to more than 97 lakh households in 61 Japanese Encephalitis-Acute Encephalitis Syndrome (JE-AES) affected priority districts in five states.
- Specific funds for JE-AES-affected priority districts are allocated on the basis of drinking water sources and the extent of water contamination.
- As many as 61 high priority districts in five States are identified for strengthening prevention and control measures through five Union ministries with the Ministry of Health and Family Welfare as the nodal ministry.
- Jal Jeevan Mission is a key programme in reducing the burden of disease in these districts.

What is Japanese Encephalitis-Acute Encephalitis Syndrome (JE-AES)?

JE-AES is a serious health hazard. The disease mostly affects children and young adults which can lead to morbidity and mortality. These infections particularly affect malnourished children of poor economic backgrounds.

More about Acute encephalitis syndrome (AES)

- It is characterized as acute-onset of fever and a change in mental status (mental confusion, disorientation, delirium, or coma) and/or new-onset of seizures in a person of any age at any time of the year.
- The disease most commonly affects children and young adults and can lead to considerable morbidity and mortality.
- Viruses are the main causative agents in AES cases, although other sources such as bacteria, fungus, parasites, spirochetes, chemicals, toxins and noninfectious agents have also been reported over the past few decades.
- In 2006, the WHO coined the term AES to describe a collection of pathogens that seem like one another but are hard to distinguish between them in a messy epidemic.
- Children and young adults are most affected by this disorder and can result in significant morbidity and mortality.
- AES due to JEV was clinically diagnosed in India for the first time in 1955 in the southern State of Madras, now Tamil Nadu.
- The outbreak of JE usually coincides with the monsoon and post monsoon period when the density of mosquitoes increases while encephalitis due to other viruses especially entero-viruses occurs throughout the year as it is a water borne disease.
- In India, AES outbreaks in north and eastern India have been linked to children eating unripe litchi fruit on empty stomachs.
- Unripe fruit contain the toxins hypoglycin A and methylenecyclopropylglycine (MCPG), which cause vomiting if ingested in large quantities.
- AES, known locally as 'chamki bukhar', was the leading cause of deaths of many children in Muzaffarpur and adjoining districts of north Bihar during the last 25 years.

Who is affected?

- It predominantly affects the population below 15 years.
- There is seasonal and geographical variation in the causative organism

Causes of AES

- **Japanese encephalitis virus (JEV) is the major cause of AES in India** (ranging from 5%-35%).
- Herpes simplex virus, Influenza A virus, West Nile virus, Chandipura virus, mumps, measles, dengue, Parvovirus B4, enteroviruses, Epstein-Barr virus and scrub typhus, S.pneumoniae are the other causes of AES in sporadic and outbreak form in India.
- Nipah virus, Zika virus are also found as causative agents for AES.

Treatment

Acute Encephalitis Syndrome (AES) can be treated using antibiotics, antiviral medication, and supportive care. The treatment for hypoglycemia includes supplying dextrose, a simple sugar similar to glucose, intravenously. Other measures include:

- Ensuring children eat cooked meals before going to bed
- Keeping children under parental supervision so that they can prevent them from eating unripe and too many litchis

Jal Jeevan Mission(JJM)

- JJM announced by the Prime Minister on 15th August 2019 is under implementation in partnership with States/ UTs to provide tap water connection to every rural household of the country by 2024.
- The Jal Jeevan Mission will be based on a community approach to water and will include extensive Information, Education and communication as a key component of the mission.

- JJM(urban) under the Department of Drinking Water & Sanitation.
- JJM(rural) under the Ministry of Jal Shakti.