

SERUM TIMES

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SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Doctors / Readers,

Hope you are well. We are in the rainy season. But the rainfall this year is very different from what we see in the normal monsoon time. The rainfall is deficient still today. At the same time distribution of rainfall is very uneven. In some northern states, heavy rainfall had caused floods in those states. A new thing is the severe flood in Delhi. The overflow of Yamuna in Delhi has been due to the downstream flow of rainwater from some other states. The anxiety of dengue has been very high there. Delhi has been a notorious place for dengue infection. So, this year the governments of Delhi and some other states will have to be very cautious about any eventuality.



It is reported that the cumulative number of cases of dengue for 2023 at epidemiological week 21 was 2,571. This has been almost four times higher compared to the 669 cases reported during the same period in 2022. But there have been no death reports this year as of now. A report on 7th July states that many parts of India like Kerala, Odisha, and Assam are already taken an uptick in dengue cases.

An important epidemical disease of the monsoon

We are going to discuss an important health problem that intensifies in the monsoon season. This has been leptospirosis. It is a bacterial disease. Actually, it is prevalent around the world. But underdeveloped countries are more prone to this, particularly, people of slums and rural subsistence farmers are more vulnerable to the disease. It is caused by pathogenic strains of *Leptospira*.

The disease spreads to humans from animals such as rodents, dogs, cattle, and pigs. Humans unknowingly catch it through direct or indirect contact with water or soil contaminated by the urine of infected animals. People involved in agricultural and livestock farming are more prone to this disease as they work in underground sewers, meat selling, and as veterinarians and the like jobs.

How many people are affected each year?

In many cases, this disease is automatically cured. This is why it is difficult to have an exact estimate of the incidence of this. But one estimate has been 10 persons or more in one lakh suffer from this disease. In India, states like Gujarat, Kerala, Maharashtra, Tamil Nadu, and partly Andhra are highly affected by this disease. In other parts like central, northern, or eastern parts of India this is not generally found.

The next story will discuss the disease in detail. So be cautious about dengue and other monsoon-related health problems.

With thanks.

Sanjib Acharya

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Leptospirosis surges in the rainy season

It is a bacterial disease, and its severity ranges from mild flu like illness to life-threatening. Globally it affects more than 10 lakh people and kills about 60,000 each year. In India, thousands of people are affected by this disease (The Hindu 5th July).

The humans when directly contacted with animal urine may be affected. Again, it may contract indirectly through soil and water that contain *Leptospira* bacteria. Chances of contract rise if people have cut on the skin. It is also an occupational hazards disease. Incidence is also linked to extreme weather like floods and hurricanes.

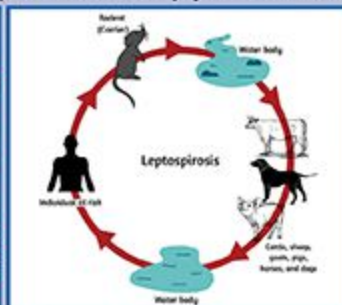
Symptoms of the disease

In the first 10 to 15 days there may not be any symptoms but sometimes it hits fast and fever may rise very high. Other symptoms include headache, muscle ache, jaundice, vomiting, diarrhoea, and skin rash. As symptoms are similar to other diseases like flu and meningitis, blood testing is advised to examine antibodies in the blood. At times doctors prescribe a DNA test. But it is costly. The disease generally stays for a week. But it may linger in case of increasing severity.

In that case, symptoms may include kidney failure, meningitis, and lung problems. In very severe cases it may damage organs of the body.

Treatment procedure

Doctors prescribe antibiotics like penicillin and doxycycline. Additionally, ibuprofen may be prescribed by



doctors to reduce fever and muscle pain.

Preventing leptospirosis

The first step is to avoid contaminated water. Secondly, in some places of underdeveloped areas, people drink water that may not be clean properly. So, drink clean water. Thirdly, bacteria of this disease may enter through openings. So be selective about water before swimming, water skiing, sailing or even fishing in fresh water. But salt water is considered to be safe. Fourthly, try to avoid infected animals, especially wild rat which is very dangerous for spreading the disease. In the Western world, about 20% of wild rats carry this. Fifthly, be careful about infected animals as infection can come through the air like flu or cold.

Experts think that as the disease occurs due to interconnections between animals and humans and even plants, we need a "One Health" approach.

What does it mean? It means public health workers and animal husbandry department people work together to deal with the health problem. So, the health of both animals and humans should be considered together.

Even a regular 20 minutes' walk reduces depression substantially

A very recent study has found that older adults performing as little as 20 minutes a day (for five days a week) of moderate to vigorous physical activity had a 16% lower risk of depressive symptoms and 43% lower odds of depression. The estimates have been made compared to those who do not take any exercises.

Some general information related to the study

Undertaking regular exercise has really high health benefits and it is not a new discovery. It can reduce weight, reduce the risk of many diseases, strengthen bones and muscles, and also improves brain health. The new study has observed that it also reduces mental depression. This is important because depression and loneliness have already engulfed highly in modern society and it is said to be increasing. The present study has also observed how much exercise is needed for having a beneficial effect.

About the research

This has been a long period of study. It took 10 years to complete. It was done in Ireland. The researchers included 4,016 participants from The Irish Longitudinal Study of Ageing. This large-scale longitudinal study aimed to improve the aging experience of people in Ireland. The data were collected from October 2009 to December 2018. The researchers collected data on the demographic, health, lifestyle, and social factor of the participants through a questionnaire to each of them either through self-completed mode or nurse health assessment or interviews.



At each data point, the participants self-reported their physical activity for the last seven days. How many days and how long they had been undertaking exercises whether vigorous, moderate, or walking, were also recorded. From that information, researchers estimated the total number of the metabolic equivalent of task minutes per week for each individual. In that way, they arrived at the results.

One of the scientists and leaders of the research team, Dr. Laird reportedly said that exercise also had lowered the risk of both depressive symptoms and major depression for participants with chronic diseases and similarly the effect had increased with greater activity levels.

The science behind this

Exercise increases blood flow to the brain and the hypothalamic-pituitary-adrenal (HPA) axis. This influences motivation, and mood, and decreases reactive to stress. It also increases the level of endorphins, the body's natural pain and stress reliever.

CSR Activities & Events of SERUM throughout July, 2023

Half-yearly Meeting



July 1: SERUM Group is online on National Doctors Day



July 2: For North Bihar was held at Hotel Galaxy, Bhagalpur



July 8: For Odisha was held at Hotel Grand Residency, Cuttack



July 1: Health Camp at Ahiritola Dolna Park



July 6: Barsha Baran, 2023 celebration at Serum Auditorium



July 11: Sri Sanjib Acharya at Saradacharan Aryan Institution



July 14: Calcutta High Court Advocate's Clerks' Philanthropic Trust org. Health Camp



July 14: Sri Sanjib Acharya at the Khuti Puja of Ultadanga Bidhan Sangha



July 15: Sri Sanjib Acharya at the Khuti Puja of Railpukur United Club, Baguriati.



July 16: Khuti Puja of Bagbazar Palli Puja o Pradarshani at Gaurimata Uddan.



July 16: Health Camp at Chatterjee Hut, Howrah



July 23: Sri Sanjib Acharya at the Voluntary Blood donation Camp organized by Kumartulli Young Bengal Sporting Club



July 23: Sri Sanjib Acharya at the Voluntary Blood donation Camp organized by Players Club



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