



SERUM TIMES

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SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Readers/Doctors,

We hope you are well. The New Year had started with severe anxiety about the Human Metapneumovirus or HMPV that emerged from China. Many news organizations - social media and professional media have spread different stories about this disease and projected it as a deadly disease like Covid 19. But the Government of India quickly responded and assured the people that it was not as dangerous as it was thought by many people and also assured that all the steps had been taken to prevent any untoward incidents.



The role of WHO in this situation was also good. The organization said (reportedly on 7th January) it was in touch with Chinese health authorities and had not received any reports of unusual outbreak patterns.

What is HMPV?

It is a respiratory virus that usually causes upper respiratory infections similar to the common cold or pneumonia. It is mainly a winter season or early springtime disease. It was first identified in 2001 from clinical specimens obtained from patients with acute respiratory illness. So, it is not a very new disease similar to Covid 19. It can affect people of all ages but children under five, older adults, and those with weakened immune systems are at high risk. To reduce the spreading of HMPV one has to follow guidelines that are similar to those followed to combat Covid 19. Stay at home if one is sick, use a mask to cover the nose and mouth, wash hands with soap and water for at least 20 seconds, and use alcohol-based hand sanitizer, etc. are the main guidelines to check the spread of HMPV. So, do not be panicky about it. It is not as deadly as Covid 19.

In this issue, we are going to discuss two stories. The Story 1 touches on a not-so-known sleep syndrome known as Alpha-Delta sleep disorder. It is a sleep pattern characterized by alpha waves mixed with delta waves during sleep. It is associated, to a large extent, with chronic pain, fatigue, and un-refreshing sleep. It is also related to metabolic brain dysfunction. Why does such a disorder originate, is still unknown. This can be controlled by using non-drug and drug treatment.

The Story 2 is also related to the improvement of brain health. As many as 12 questions have been asked by doctors of the American Academy of Neurology. One has to consider to maintain as many areas as possible to improve one's brain health. We request you to go through these stories which will surely help you in many ways.

Wish you healthy life.

Sanjib Acharya

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Alpha-Delta Sleep Syndrome can be controlled by a change in lifestyle

Story 1

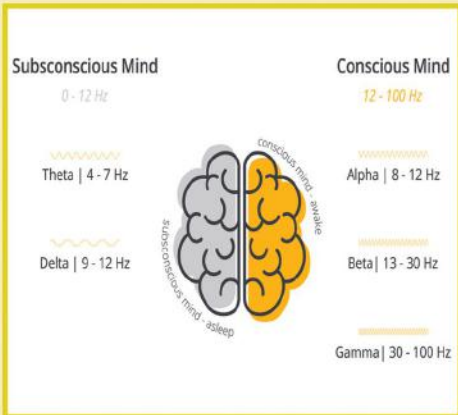
Alpha waves are brain waves that fall between 8 and 12 hertz (Hz). Hertz is the number of times the wave cycles or repeats per second. The human brain most commonly produces alpha waves when a person is awake but relaxed with eyes closed. In normal sleep alpha waves may be seen when a person is briefly awakes. Actually, alpha activity is a normal finding, about in 90% of persons, during the transition from quiet wakefulness to sleep. If it begins to overlap other brain wave patterns, this may be a sign of an abnormality or illness that may contribute to poor sleep quality. Delta sleep occurs at .5 to 3 Hz delta waves are the slowest of the brain waves. They occur when you are in the deepest states of sleep.

Alpha-delta sleep clarification

Alpha-delta sleep refers to alpha intrusions that occur during deep sleep they are usually primarily delta waves. The abnormal intrusion of alpha activity into the delta activity defines slow wave sleep. Alpha intrusion can be found in healthy sleep. Alpha-delta sleep is especially prevalent in fibromyalgia patients. There is evidence that suggest that the irregularities in the sleep of these patients may cause the muscle and tissue pain that characterizes the disorder. This may occur more frequently if one has a sleep disorder, including insomnia or obstructive sleep apnea, circadian rhythm sleep disorder, or narcolepsy.

How are brain waves measured?

It is measured by the EEG technique. To measure it technicians put electrodes on various parts of a person's scalp. These electrodes measure how much electricity is produced by a great number of nearby nerve cells in the brain. The electrical activity of the brain can be seen when an amplifier is set to do this.



| Brain Waves During Sleep | |
|---------------------------------|------------------------------------|
| Type and Range | When It Occurs |
| Beta Waves 13 - 30 Hz | While awake |
| Alpha Waves 8 - 12 Hz | While relaxed or sleepy |
| Theta Waves 4 - 8 Hz | During stage 1 and 2 (light) sleep |
| Delta Waves 1 - 4 Hz | During stage 3 (deep) sleep |

Symptoms and causes of alpha-delta sleep

The exact cause of this is yet to be known. But it is related to brain dysfunction. It is associated with chronic pain and fibromyalgia. Many experts think that it is related to hyper-vigilance.

Among symptoms chronic fatigue or pain and unrefreshing sleep come first. Additionally, in fibromyalgia, patients' non-restorative sleep is also a clear symptom.

Treatment

Both of medical and non-medical treatments are suggested. Among non-pharmacological medications adjusting medication, counselling to do regular exercise, neither drinking alcohol nor caffeine, lifestyle changes, and establishing a regular bedtime routine or listening to music or reading are suggested.

There are specific drugs like Alpha-2-delta ligands, dopamine agonists, Benzodiazepines opioids that are used. But without doctors' advice, one should not use any of these drugs.





To improve brain health 12 areas are recommended by doctors

Story 2

The American Academy of Neurology very recently released 12 areas like diet, exercise, sleep, genetics, and mental health that can help to have good health for the brain. Recently the list that encourages individuals to ask their doctors more questions to improve their brain health is said to prevent cognitive decline. The MedicalNewsToday, an online health magazine reported about this on 21, January 2015.

The 12 questions that one should ask his/her doctors for healthier brain:

- 1, on sleep - Are you able to get sufficient sleep to feel rested?
- 2, affect mood and mental health - Do you have concerns about getting enough or healthy food or do you have any questions about supplements or vitamins?
- 3, food, diet, and supplements - Do you have concerns about getting enough or healthy food or do you have any questions about supplements or vitamins?
- 4, exercise - Do you find ways to fit physical exercise into your life?
- 5, supportive social interactions - Do you have regular contact with close friends or family and enough support from people?
- 6, trauma avoidance - Do you wear seatbelts and helmets and use car seats for children?
- 7, blood pressure - Have you had problems with high blood sugar at home or at doctor visits or do you have any concerns about blood pressure treatment or getting a blood pressure cuff at home?
- 8, genetic and metabolic factors - Do you have trouble controlling blood sugar or cholesterol? Is there a



neurological disease that runs in your family?

- 9, affordability and adherence - Do you have any trouble with the cost of your medicine?
- 10, infection - Are you up to date on vaccines and do you have enough information about those vaccines?
- 11, negative exposure - Do you smoke, drink more than one or two drinks per day, or use nonprescription drugs? Do you drink well water or live in an area with known air or water pollution?
- 12, social and structural determinants of health - Do you have concerns about keeping housing, having transportation, having access to care and medical insurance, or being physically or emotionally safe from harm?

The report also points out that different experts or doctors give more emphasis or pay greater attention to some areas than to other areas of these 12 matters.





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CSR Activities & Events of SERUM throughout January, 2025



Jan 1: SERUM Group celebrates 26th Anniversary at SERUM Hatibagan



Jan 1: Sanjib Acharya at Kalpataru Utsab org. by Netaji Tarun Sangha & Satyikatha Magazine



Jan 1: Sri Sanjib Acharya at Girish Mancha



Jan 2: Sri Sanjib Acharya at the Inauguration of Karbala Premiere League



Jan 2: Sri Sanjib Acharya at Free Mega Health Camp org. by Girish Park 5 Star Sporting Club



Jan 5: Sri Sanjib Acharya at Voluntary Blood Donation Camp org. by Kolkata Bandhudal



Jan 19: All Bengal Sit & Draw and Recitation Competition, 2025 at Children's Park, Shyambazar



Jan 23: Netaji's birthday celebrations at SERUM Auditorium



Jan 26: Sri Sanjib Acharya & members of Serum Thalassemia Prevention Federation and Varsha Students celebrated Republic Day at SERUM Auditorium



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