



# SERUM TIMES

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SERUM MEDICAL BULLETIN

## From the desk of the Editor-in-Chief

Dear Readers/Doctors,

I hope you are well during the Puja festival. Huge natural calamities, particularly untimely rains, have disrupted the lives of millions in some states just before the festival. This has a huge financial burden for families and the government to recover losses. In India, the state of public health infrastructure has been significantly short of standards. This has made our lives full of anxiety. One report (Express Health



on this.

### Status of India's public health infrastructure

A self-assessment done by the government of India last June reveals many inadequacies of public health infrastructure in India. Only 20% of these facilities meet the required benchmarks for infrastructure and resources. A troubling 42% have scored below 50%. In response, the government has launched an initiative to upgrade 70,000 facilities within 100 days. This will be done under the National Health Mission which will inspect, fund, and advise according to the requirements of the programme.

### Medicine Nobel Prize for 2024

Another important thing has been the recent Nobel Prize declaration. In Medicine, Victor Ambros and Gary Ruvkum have won the Nobel for "the discovery of microRNA and its role in post-transcriptional gene regulation." Why is their work important? According to the Nobel Prize website, their contribution has been, that if "gene regulation goes awry, it can lead to serious diseases such as cancer, diabetes, or autoimmunity. Therefore, understanding the regulation of gene activity has been an important goal for many decades."

In this issue, we are going to discuss two topics. The first story discusses Sleep Arousal Disorder. A large number of people, mainly, children suffer from this problem. In many cases, the problem subsides with age but in many cases, it stays longer. In some cases, the problem may start among the grown-up persons. its treatment is something different. All these are discussed in story 1 of this issue.

The story 2 touches upon the longevity of the people. According to new research, the rate of growth of longevity of the people has been declining. In the early days, high mortality and high fertility were associated with a short average length of life. But in the period 1920 and 2022 the longevity of people has increased dramatically, mainly, due to innovation in public health and medicine. However, new research has observed that it is very difficult to enhance life expectancy beyond the age of 80 and 90 years.

Wish you happy Kali Puja, Deepawali and Jagadhatri Puja,

Sanjib Acharya

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## Sleep Arousal Disorder, more common in children, can be treated fully

Story 1

Sleep Arousal Disorders (SAD) are common in children. In many cases, it disappears as one grows up. Here arousal does not mean that a child wakes up. It is actually a partial wake-up from deep sleep known as “slow-wave sleep”. The SAD involves physical and verbal activity when a child is not completely awake or aware during the events. He/she cannot respond to others’ attempts to interact with him/ her. He/she cannot remember or partially remember what happened during sleep. It is actually a change in brain wave activity and not necessarily waking up.

The problem is also discussed as a disorder of arousal from non-rapid eye movement (NREM) sleep known as parasomnias. Parasomnias are disruptive sleep-related disorders. This includes confusional arousals, sleepwalking, sleep terror, and similar variants like abnormal movements, talks, emotions, and actions that happen while one is sleeping. Even the bed partner might think the person is awake.

Why does it occur?

It may involve problems with the quality, timing, and amount of sleep. This may occur due to daytime distress and impairment in functioning. It may also occur with medical conditions or other mental health conditions like depression, anxiety, or cognitive or mental disorders.

Who is most affected by parasomnia?

There are mainly two types of it - non-REM and REM. NREM parasomnia usually occurs in individuals between five and 25 years of age. It often occurs in people who have a family history. Certain parasomnias like nightmares



are more common in females and sexennial is seen more often in males. REM sleep behaviour is more commonly reported in males over 50. Sleep terrors, confusional arousals, and sleepwalking occur in both females and males equally. Also, non-REM disorder is common in children under 15.

How are parasomnias diagnosed?

The medical and family history of patients is enquired about. Additionally, some tests like 1) a Sleep study, i.e., examining brain waves, heart rates, eye movements, and other behaviours in a sleeping laboratory, 2) Video sleep EEG to record brain activity, and ST or MRI scan to detect degeneration of brain or other neurologic causes are done.

Management and treatment

First, good sleep hygiene habits are advised. Secondly, patients are told to maintain a regular sleep-wake schedule. Thirdly, no or limited use of alcohol is to be maintained. Fourthly, for REM sleep disorder clonazepam and melatonin are generally prescribed by doctors. Actually, doctors should treat the patients according to the condition of the patients.



## The increase in longevity of people has been slowing down

Story 2

It is known that the average life expectancy has extended dramatically. The phenomenon has not only been seen in developed countries but even in developing countries, this trend is obvious. This has been possible owing to medical and technological advancement. It is reported that S Jay Olshansky, a professor at the University of Illinois Chicago who has also authored a recent study about this told The New York Times, that even if deaths from common diseases or accidents were eliminated, people would die of aging itself. He said, "We still have declining functions of internal organs and organ systems that make it virtually impossible for these bodies to live longer than they do now." So, life expectancy can touch 100 is if scientists can somehow slow down aging otherwise not possible.

### Historical trend and method of analysis

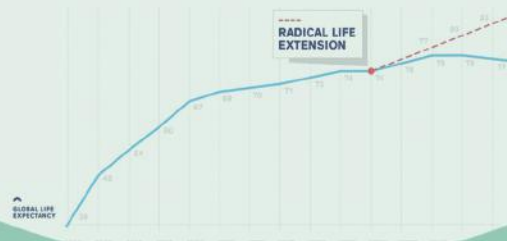
The life expectancy increased dramatically and its average human life span doubled, mainly due to innovations in public health and medicine, in the period from 1920 to 2020. But the law of diminishing returns of these has already been started. It is known that in the journal Nature Aging published recently (3rd week of November) an article, Implausibility of radical life extension in humans in the twenty-first century- has pointed out that rate of growth of rising life expectancy has been falling sharply.

Olshansky and his team analyzed data on life expectancy at birth collected between 1990 and 2019. The data was collected from the regions where people generally live longest. The areas include Australia, France, Italy, Hong Kong, Japan South Korea, Spain, Sweden, Switzerland, and also from the USA where life expectancy is not very



high. The study found that average life expectancy in the longest-living regions rose only 6.5 years between 1990 and 2019. The researchers also observed that girls born in recent years in the regions have only a 5.3% chance of reaching 100 years old while boys have a 1.8% chance, according to the reports. It implies that along with the more and more development of medicine and healthcare system, it is more and more difficult to increase the longevity of the people beyond the 80s and 90s. Olshansky reportedly said that even if deaths from common diseases or accidents are eliminated people would die of aging itself. The declining functions of internal organs and organ systems have a limited period to work is the reason behind it.

**Life Expectancy Gains are Slowing**





**CSR Activities & Events of SERUM throughout October, 2024**



Oct 1: Annapurna Puja and distribution of food materials to the underprivileged



Oct 2: Distribution of T-shirts to the idol porters at the Kumartuli MritShilpi Sanskriti Samity

Oct 5: Distribution of Thalassaemia Medicines to 15 Thalassaemia Children

Oct 6: Sri Sanjib Acharya at the inauguration of Talapark 15 Pally Durga Puja



Oct 10: SERUM Sharod Baran, 2024



Oct 26: Bijaya Sammilani, 2024 held at Serum Auditorium



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