



SERUM TIMES

Monthly | Volume IX | Issue VIII | August 2024

SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Readers/Doctors,

Hope you are well. We are in the midst of the rainy season, a time for flourishing several diseases that were discussed in the July issue of ST. Monsoon is an ideal time for swine flu & dengue. The water contaminated in this period has been a source of harmful bacteria, viruses, and parasites. Additionally, contaminated food & drinking water may happen in many cases due to improper handling of water and other human behavioural matters, which may harm human health. So, in the rainy season, the rise of severe health hazards has been a common thing. So, keep away from crowds, use a mask whenever needed, keep your hands & face clean, and eat carefully.



In West Bengal, as of 17th July, the number of dengue-infected patients rose to 441 but there is no report of fatality. The incidence of malaria has reached 2,164 & 1 person has died so far. The situation may worsen with the rise in rainfall, according to the experts.

National situation: In Kerala, 6 cases of amoebic meningoencephalitis, known as PAM, have been confirmed in the state. This is a deadly disease and the fatality rate of PAM is 97%. But a 14-year-old boy in Kozhikode district has reportedly recovered from the disease. It is considered to be a miracle as only 11 persons recovered from this disease worldwide (The Hindu, 27th July).

Every year, on an average, 55 to 57 thousand die in India due to snake bite. Snakebite in the rainy season is a common hazard in most Indian states.

In this issue, we will discuss the health sector in the Annual Budget of the government of India & some perspectives on health. Story 1 will discuss the Budget allocation in FY 2024-25 that was presented in parliament by FM on the 23rd of July. In India, less than 2% of the Budget has been allocated to the health sector. The target has been to raise it to 2.5%. Since the state governments are responsible for the health and treatment of the people, one can get very divergent views about the health and medication sector of India. Where Kerala and Himachal Pradesh rank at the top and Tamil Nadu is an advanced state in the health sector at the same time, health service is very poor in several other states.

Story 2 touches upon a very important advancement in how regular exercise benefits brain health and reduces neurodegenerative disease. The observation of recent research has been noticeable for its special revelation, that is, how exercise can protect brain health as we age.

With best wishes to you again. Thanking you

Sanjib Acharya

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Nothing special in the last Annual Budget allocation for health sector

The share of health in the Union Budget has been brought down to 1.96%. The allocations in any sector have to be read in real terms rather than in nominal terms. When someone compares to last year's allocation one should consider the rate of inflation to arrive at real allocations. So, in nominal terms, there has been an increase in the total allocation of the Ministry of Health and AYUSH taken together. There has been an increase of Rs 1,869 crore. In FY 2023-24, the allocation was Rs 92,802.5 crore and in the current Budget, it is Rs 94,876 crore. In real terms, it is only a 0.67% increase. Compared to the Covid period (FY 2020-21) the allocation is 7.6% less. The priority of the health sector has declined in the Budget.

Most surprisingly, the National Health Mission (NHM), Pradhan Mantri Swasthya Suraksha Yojna (PMSSY) - the schemes related to nutrition, primary & secondary maternal, and child health & health research have received less even if their track record is better. Whereas schemes like PMJAY, and Digital Health Mission have been allotted bigger funds (Business Line 24th July, Indranil Mukhopadhyay of OP Jindal University). The allocation for NHM has been declining since 2021-22 and its impact has been severe.

A recent study by Indian-origin researchers in the UK and USA published in Science Advances revealed there were about 1.19 million extra deaths in India during the pandemic period compared to the official data. Significantly, mortality was higher for marginalized groups and women (Telegraph, 29th July, Editorial). However, the government of India does not accept the view that mortality in the Covid period is more than what has been cited by the government.

Another weak spot of the health sector has been inadequacy in the vaccination programme amongst children.



According to WHO and UNICEF, India ranks 2nd only to Nigeria in the number of children who received no vaccines in 2023. This means 1.6 million 'zero-dose' children in India missed out on the vaccine for diphtheria, pertussis, and tetanus. India also had the third-highest number of children without the measles vaccine. India has indeed gone a long way in its vaccination programme. But at the same time, there has been a gap and, in this situation, the marginalized section of society is the worst sufferer.

Therefore, for all-round development, India must pay huge attention to the health sector. Without a healthy populace, healthy economy cannot be made.





Regular exercise helps protect brain health as we age - new research observes

Health experts recommend doing regular exercise to keep us physically fit. That means exercise increases muscle strength, improves heart health, lowers blood sugar, lowers cholesterol in the blood, and helps our body in many other ways both mentally and physically. However, recent research by Stanford Medicine has observed that it can also protect our deteriorating brain as we grow old.

The new research's observation





Exercise significantly enhances brain health by improving cognition and mood and by reducing the risk of neurodegenerative diseases. Nature, a well-known journal of medicine and health, reported the findings of the study. A summarized view of this was published in Medical News Today, an online health magazine.

The science behind this new observation and research methodology

The research involved nearly 10,000 measurements across almost 20 types of tissues. These were to examine the impact of 8 weeks of endurance exercise in laboratory rats who were trained to run on small treadmills. The researchers identified significant connections between exercise and molecules and genes that are already known to be involved in numerous human diseases and tissue recovery.

The researchers examined the effects of eight weeks of endurance training on various biological systems, including gene expression, protein, fats, metabolites, DNA chemical tags, and the immune system. They also conducted analysis on different tissues in rats trained to run increasing distances and compared this with the tissues of sedentary rats. They focused on mitochondria in the leg muscles, the heart, liver, kidney, and white dispose of tissue which accumulates body fat and focused on lungs, brain and brown adipose tissue



Balance Improvement	Strength Improvement	Disease Delaying	Cognitive Function Improvement
			
Helps to prevent fall risk	Helps to improve sense of independence	Helps to delay diseases such as heart disease, osteoporosis or diabetes	Helps to improve the quality of life

which show a metabolically active fat that burns calories. These findings suggest that endurance training may help improve muscular function in diabetes, as well as boost liver health of the rats.

Observation of the scientists about brain health

The researchers examined gene expression in individual brain cells of mice. They discovered that exercise profoundly influences gene expression in microglia, the immune cells supporting brain function in the central nervous system.

Conclusion and synopsis of the understanding of the new findings

Professor Jana Vukovic, head of the neuroimmunology and cognition at the University of Queensland told Medical News Today on this research, "The aging process affects all of the different cell types in the brain with the greatest impact on the resident immune cells, microglia. Importantly, exercise reverts the microglial gene profile back to their youthful state."



CSR Activities & Events of SERUM throughout July, 2024



Aug 1: Our Brand Leader, Sri Sanjib Acharya received the Bhartiya Mahantam Vikas Puraskar, 2024 & SERUM Group awarded the World Sustainability Commitment Award by Asia One Magazine in London

Half-yearly Meeting



July 13: Malda



July 14: Bhagalpur



July 19: Kolkata & South 24 PGS



July 21: Odisha



July 6: SERUM Jeeban Debata Rath - BP & other blood tests were conducted



July 7: Sri Sanjib Acharya at Khuti Puja of Belegghata Nabajagrata Sangha



July 19: Thalassemia Awareness at Ramakrishna Sarada Mission Sevangan



July 20: Sri Sanjib Acharya at East Bengal Cricket Academy



July 24: Smarane Mahanayak. Remembered Uttam Kumar on his 44th death anniversary at Serum Auditorium



An initiative of **SERUM Analysis Centre (P) Ltd.**

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