



# DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY

Monday

20190520

## Anaemia

**Anaemia is a public health emergency that needs to be addressed immediately (The Indian Express: 20190520)**

<https://indianexpress.com/article/opinion/columns/anaemia-cases-india-poverty-national-food-security-act-mid-day-meal-scheme-5736506/>

Fortifying staples with essential nutrients holds the key in fight against anaemia. The daily consumption of iron rich dark green leafy vegetables has reduced from 64 per cent to 48 per cent of the population in the last decade.

The writer is a Young Professional working in Women and Child Division, NITI Aayog. Views are personal.

anaemia, anaemia cases, India poverty, poverty rate India, National Food Security Act, Mid-day Meal Scheme, india health, india major diseases, anemia, anemia patients india, anaemia among children, indian express

In the decade between 2005-06 and 2015-16, stunting declined at the rate of 0.9 per cent per annum.

India has been able to dramatically reduce the number of people living in extreme poverty from 306 million people living on less than \$1.90 (on a PPP basis) a day in 2011 to 48 million today. However, it is puzzling as to why the country has been unable to show a similar dynamism in its record against malnutrition. Despite major government interventions — including providing highly subsidised foodgrains to the poorest 67 per cent of the population under the National Food Security Act (NFSA), a free Mid-day Meal Scheme (MDM) that targets around 100 million students in government schools and a supplementary nutrition programme through the ICDS network — the country is home to the largest number of malnourished children in the world.

In the decade between 2005-06 and 2015-16, stunting declined at the rate of 0.9 per cent per annum. Though anaemia among children has declined, it affects every second child in the country. There has been no perceptible decline in anaemia among 15 to 49-year old women; it affects around 60 per cent of them. This public health emergency needs to be addressed immediately.

Poverty, gender disparity, poor sanitation, low health and nutrition service coverage and poor nutritional intake — particularly an iron-deficient diet — continue to impede our fight against anaemia. The daily consumption of iron rich dark green leafy vegetables has reduced from 64 per cent to 48 per cent of the population in the last decade. Many, in fact, argue that the NFSA's focus on wheat and rice has forced millets — traditional source for iron and minerals — out of the market. The government's iron supplementation programme to overcome IDA has led to only 30 per cent of pregnant women consuming iron and folic acid tablets. This compels us to think of simpler and effective strategies like fortification of food staples with essential micronutrients like iron and vitamin.

Food fortification is a largely-ignored, yet critical, strategy which has proved an effective, affordable, scalable and sustainable intervention in many countries. India too has tested this idea when it successfully tackled the widespread problem of goitre by mandating iodised salt in 1962. As there are numerous programmes to address malnutrition, this simple idea of fortifying meals has the potential to reach every segment of the population.

Policy-makers have recently begun to address this blind spot to change the country's nutritional landscape. Comprehensive regulations and standards have been framed by the FSSAI on fortification of food. The Women and Child Development and Human Resource Development ministries have issued advisories to the states to mandatorily use fortified wheat flour and edible oil in ICDS and MDM. However, given that fortification of these staples is still relatively new in India, traction has been slow.

Rice is the staple for 65 per cent of the Indian population, most of whom are located in high malnutrition burden states. Supply of fortified rice through a network of fair price shops is a cost-effective intervention to address anaemia across all sections of the population. Evaluations in Odisha's Gajapati district, which experimented with fortified rice in MDM, found that the incidence of anaemia has reduced by 20 per cent between 2012 and 2015, of which 6 per cent reduction can be directly attributable to fortification.

The Department of Food and Public Distribution, facilitated by the NITI Aayog, has recently launched a centrally-sponsored scheme on rice fortification in PDS. The programme is designed to cover 15 districts, initially. Although the budget is a meagre Rs 147 crore, the implications for the fight against anaemia are huge. Our estimate for a pan-India roll out of rice fortification is around 2,400 crore (about 1.4 per cent of the total food subsidy bill in 2018-19). A successful pan-India scale up of fortification will depend on many factors — the political will of state governments, flexibility to allow states to adapt the fortification model to their procurement and distribution systems and capacity building of different stakeholders. The

FSSAI's role, its enforcement machinery and the quality control labs needs to be strengthened. Lastly and most crucially, sustainability of fortification depends on the regular consumption of fortified food by the consumers and thus a comprehensive state specific strategy should be developed to generate awareness among the consumers.

This article first appeared in the print edition on May 20, 2019 under the title 'The Salt Example'. The writers are with the Niti Aayog.



## **Pollution**

**Long-term plans to fight pollution in Delhi gathering dust (The Hindu: 20190520)**

<https://www.thehindu.com/news/cities/Delhi/long-term-plans-to-fight-pollution-gathering-dust/article27180659.ece>

Despite having a Comprehensive Action Plan for Delhi-NCR, many measures still remain on paper

Air pollution level in the city nosedived last week and stayed in the 'very poor' category for two days partly due to dust storms and also because of non-implementation of long-term plans to fight pollution, experts and government officials told The Hindu.

The top 14 most-polluted cities in the world are located in India, according to the World Health Organization; Delhi ranks six.

Air pollution has been linked to lung cancer, stroke and heart disease. In 2017, 1.24 million people died in India due to air pollution, according to a study funded by the Indian government and the Bill & Melinda Gates Foundation.

Ashwani Mehta, senior consultant at Ganga Ram Hospital in Delhi, said cardiovascular diseases and respiratory diseases kill the most number of people in the Capital and air pollution plays a "major role" in both.

Authorities responsible for controlling air pollution have been pulled up multiple times by the Supreme Court in the past. But there is no respite from the pollution.

Laxity in execution

"Plans have been made. What we need is implementation with strong political and public support," said Anumita Roychowdhury, executive director, Research and Advocacy at Centre for Science and Environment.

"Solutions are known to everyone. It is a question of implementing it on a scale that is needed and with strong level of stringency."

When asked about it, Sanjeev Khirwar, Secretary, Department of Environment of the Delhi government, said, "We have improved over the years and there will be strict implementation of the existing plans. We will take action against agencies which are not sticking to the timelines of the plan."

Mr. Khirwar said multiplicity of agencies involved -- Central government, State governments, municipal bodies -- also affects the implementation of plans.

Long-term plans to fight pollution in Delhi gathering dust

CAP and GRAP

The plans Mr. Khirwar and Ms. Roychowdhury were referring to are mainly two documents: Comprehensive Action Plan and Graded Response Action Plan.

Following Supreme Court directions, in 2018, the Central Pollution Control Board came out with CAP for Delhi and the National Capital Region. CAP is a long-term plan which lays down systemic changes to be implemented to fight air pollution.

CAP differs from other plans, as it fixes responsibilities of works to be done on different agencies and also issues deadlines. It divides the works to be done, along with deadlines into 12 major areas like air quality monitoring, action to reduce vehicular emissions, control measures for road dust, among others.

For instance, under the heading “improvement in bus numbers and services”, the CAP states, “SC orders directing Delhi government to abide by Supreme Court direction to augment 10,000 buses by 2000 and the Union to provide land for bus depots.”

“Delhi government must ensure total compliance with order of 1998 and 2016 by December 2018. This requires a total fleet of at least 10,000 buses,” the deadline part of the plan reads.

However, the Delhi government’s process to procure around 3,000 buses is caught in red tape and the deadline has not been met.

Vehicular pollutants are a major cause of pollution and improving public transport would encourage people to use it and lead to less vehicles on road and lesser pollution.

GRAP is a set of emergency measures to be implemented to control air pollution, according to day-to-day air quality index.

“We know exactly what we need to do. We need to stick to it and do it,” said Sagnik Dey, associate professor at Centre for Atmospheric Studies, IIT-Delhi.

Where are we lacking?

Experts said that improving public transport, dust control and waste management are the main areas in which Delhi has been lacking.

D. Saha, former head of CPCB’s air quality lab, pointed out that dust is a major cause of pollution and has to be controlled. “The tragedy is that the measures [to control dust] have not been implemented,” he said.

Though dust is a major cause of pollution, little has been done across Delhi to prevent dust from rising in the air, in terms of landscaping of roads or by planting shrubs, trees and grass along the sides of roads.

Mr. Khirwar said that the Public Works Department is doing landscaping of about 45 km of city roads. “The designs have been made and it is in the tendering stage. It will be done once the model code of conduct is lifted,” he said.

Another area that needs attention is cooperation with neighbouring States, pointed out Mr. Dey. “We need to engage in dialogue with neighbouring States as 50% of pollutants in Delhi are from outside. How can we clean the city if they do not cooperate?” he asked.

To this, Mr. Khirwar said that there are no talks between neighbouring States at this point, but discussions will be initiated.

Suggesting ways to improve air quality, Mr. Saha said, “Delhi is better in implementation of measures compared to other States in the NCR. A lot of pollutants are from outside Delhi. So, for Delhi to be clean, similar measures should be taken in other cities as well”.

“Our major focus is on controlling dust, vehicular pollution. Construction sites have wind breakers and sprinklers to control dust. The PM2.5 and PM10 annual average has come down. We are seeing less polluted days, but there are peaks too,” Mr. Khirwar said.

Ms. Roychowdhury said things have improved in the monitoring of air pollution in terms of use of clean fuel and entry of trucks. But in many areas, there are “big gaps”.

“Children are affected more by air pollution than adults and a lot of people develop allergies due to it. Action on the ground by the government is lacking and we also need to raise awareness among people,” Dr. Mehta said.

Delhi’s air pollution makes headlines during winters when the wind speed is low and the pollutants get trapped and cannot be blown away by winds. Adding to it is the stubble burning in the neighbouring States.

Mr. Saha pointed out that a lot of factors affecting air pollution depend on Delhi’s geographical location and meteorological conditions and nothing can be done about it.

“There are three waves of pollution that happen in Delhi. One during the summer, that is mainly due to dust from other areas. Another during October 15-November 15, when the stubble burning happens and wind speed is less, and the third during December due to temperature inversion,” Mr. Khirwar said.

“These are mainly due to meteorological conditions, which can be mitigated, but cannot be stopped.”

Siddharth Singh, author of ‘The Great Smog of India’, said, “The bay area of Los Angeles had a similar problem like north India, where the mountains blocked the wind and due to atmospheric inversion, pollutants got trapped. In 1600s, even before the industrial revolution, it was called ‘Bay of Smoke’ due to pollution. But now, there is no trace of smog in Los Angeles as they had worked on it over the years. Even in China, the number of smog days has come down. India can also do a lot better if they work on the sources of pollutants.”

# Alarming trend

- World's top 14 polluted cities are in India and Delhi ranks six, according to the World Health Organization (WHO)

- Air pollution causes lung cancer, stroke and heart disease

- In 2017, air pollution killed 1.24 million people in India. One in eight deaths

were attributed to air pollution, according to a study funded by the Indian government and the Bill & Melinda Gates Foundation

- Improving public transport, dust control, waste management and coordination with other States are measures that can be adopted to control pollution



## Measles cases

### State witnesses surge in measles cases (The Hindu: 20190520)

<https://www.thehindu.com/news/national/kerala/state-witnesses-surge-in-measles-cases/article27182594.ece>

Majority of cases are reported from the Capital

The current global resurgence in measles is having its resonance in Kerala too, which has been witnessing a serious surge in the disease since January.

Across the globe, huge local outbreaks have been caused by travel as well as the increase in unvaccinated populations.

In Kerala, however, majority of the cases are reported from Thiruvananthapuram, which has good vaccination coverage and amongst people who are well-nourished and have received at least one dose of vaccine in their lifetime.

Kerala reports around 600 plus cases of measles every year. This year, as many cases have been reported in the first four months itself, with over 50% cases in the 19-40 year age group. There are also cases in the less than nine months age group, but fewer cases than before in the 1-5 years group.

### Immunisation

“When universal routine immunisation in childhood improves and the virus is still in circulation, the disease will naturally move to the older age group who may be unimmunised or whose vaccine-derived immunity has begun to wane. At a time when the State is moving towards measles elimination, adult measles is a major concern,” a senior health official said.

Historically, measles has been a childhood disease. The epidemiological shift to older population presents new public health challenges because of the increased severity of the disease, especially in vulnerable populations like pregnant women and immunocompromised patients (HIV, organ transplant recipients on immunosuppressants, cancer patients), who cannot be vaccinated with the live attenuated measles vaccine.

“Earlier, nearly 90% of measles cases could be managed on out-patient basis. This year, most cases are in the 19-35 age group and over 60% of the cases had to be admitted as in-patients, with a good percentage requiring ICU management,” said R. Aravind, head of infectious diseases at Thiruvananthapuram Medical College.

The changing epidemiology of measles has not just brought forth the several unknowns but also raised important questions on whether adult immunisation should be a policy, on vaccine potency and the adequacy of vaccine immune response.

Though measles vaccine is highly immunogenic, as part of the national measles elimination strategy, a mandatory second dose at 15-18 months was introduced in 2010, so that there is better immune protection. It is fairly certain that those currently in the 18-40 years age group have not had the protection of the second dose and may be one reason for the increase in cases in this age group.

The first vaccination age for measles has been fixed at nine months because till then, the maternal antibodies transferred in utero are supposed to afford protection to the child. If vaccinated earlier, the maternal antibodies might interfere with the immune response to vaccine.

### Susceptible

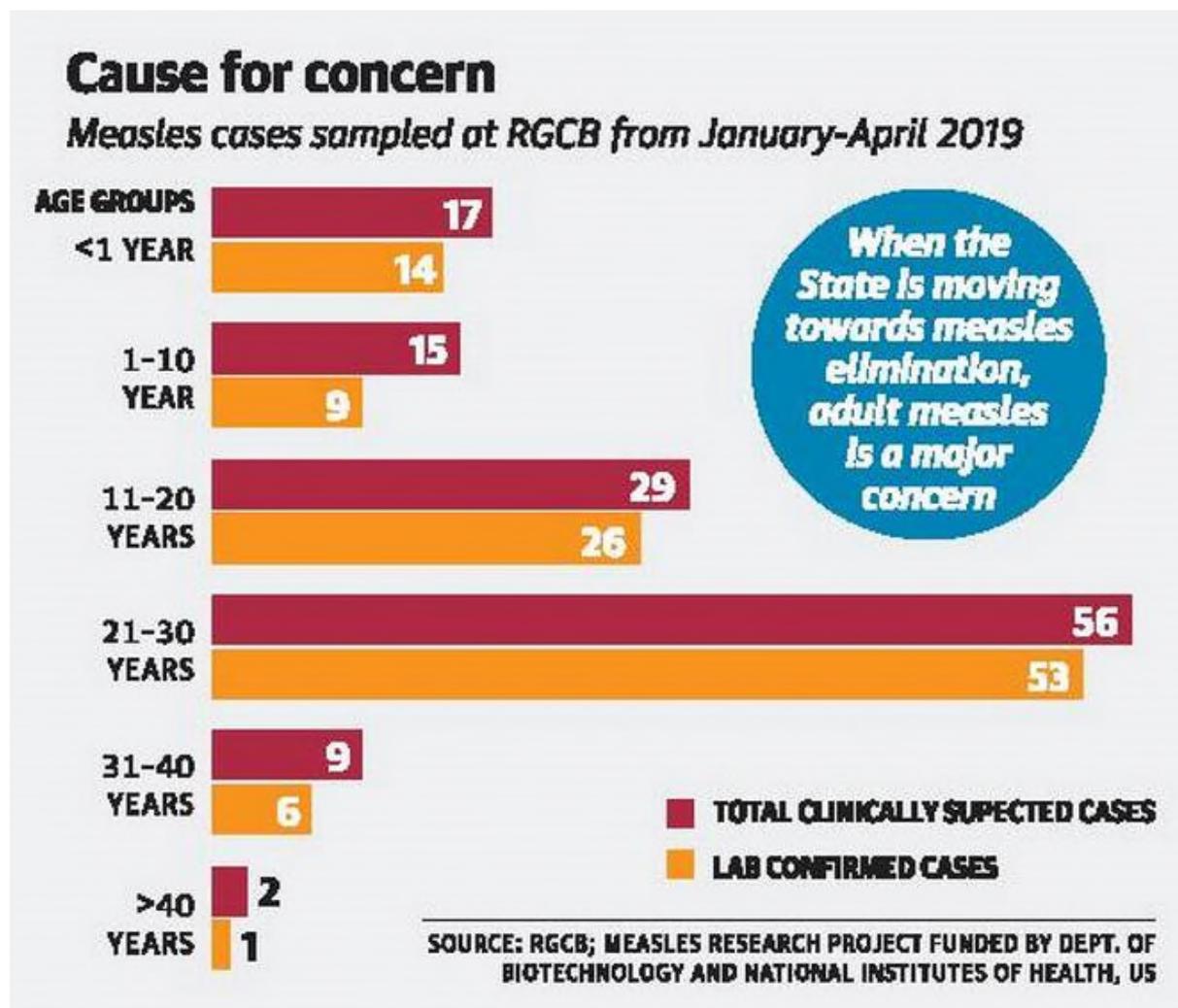
However, at Rajiv Gandhi Centre for Biotechnology, the director, M. Radhakrishna Pillai and team, who are currently studying the efficacy of measles vaccination in South India, has

reported that children under the recommended vaccination age of nine months are highly susceptible to measles.

SAT Hospital too has recently reported the death of an infant younger than nine months due to measles.

“If the young mothers of the day does not have sufficient antibody protection, how do we protect infants younger than nine months against measles? Given measles’ age shift to older age group, should we move the vaccination age to 12 months for better vaccine response?

“Is a third dose of MMR (mumps-measles-rubella) necessary? And should we recommend that all adults be given a dose of MMR as the virus is still in circulation? These questions need to be looked at from a research perspective by the State/National Technical Advisory Group on Immunisation,” a public health expert said.



## Health policy

### It's sensible to add critical illness cover to your health policy (The Hindu: 20190520)

<https://www.thehindu.com/business/its-sensible-to-add-critical-illness-cover-to-your-health-policy/article27173885.ece>



CI policies provide additional financial support for high cost of treatment and a prolonged recovery period

A hospitalisation policy is a health insurance cover under which you can claim the actual cost incurred. In insurance parlance, it is called an indemnity policy.

A benefit policy, on the other hand, pays the sum insured (SI) as a lump sum when an insured event takes place, regardless of your expenditure. Critical Illness (CI) policies are benefit policies in health insurance under which claims can be made on diagnosis of one of the illnesses specified under the policy. They provide additional financial support for the high cost of treatment of these illnesses and for the prolonged recovery period when earnings may be affected.

#### Policy renewal

The advantage of taking a CI policy in addition to a hospitalisation policy is that you can make a claim under both policies for the same event. After this, the CI policy comes to an end while the hospitalisation policy can be renewed.

Most general insurance companies in India offer CI policies as do specialised health insurance companies.

They cover several named major illnesses, including coronary heart disease, cancer, kidney failure, stroke brain surgery and so on.

In addition, specialised policies for cancer are available from many companies; Future Generali Total Insurance Solutions has a heart cover alone. Many term life insurance policies offer a CI cover as an optional rider and they can be cheaper to buy although the list of illnesses could also be restricted.

Coming to the sum insured (SI), you can choose from ₹1 lakh to ₹50 lakh. If your CI cover is a rider on a term life policy, then the maximum sum assured (SA) on the rider would depend on the main SA of the policy as there are restrictions on rider premium in relation to the main policy premium.

ded for an initial period of 3 or 4 years.

No claim is admissible for 90 days after inception of cover and other usual exclusions are any critical illness in presence of HIV infection and/or any AIDS, congenital diseases, abuse of drugs and alcohol and any treatment arising from pregnancy, miscarriage, maternity or birth.

The entire sum insured may not apply on each of the critical illnesses listed. There are claim limits for different illnesses and these vary by company as well.

There is also a survival period clause for payment of claim.

If the insured is diagnosed with one of the critical illnesses listed in the policy, he has to survive for a specified number of days after the diagnosis for the claim to be payable. This varies between policies and illnesses. In addition, a typical CI policy has no death benefit.

### CI rider with term plan

To get around both these constraints you can buy a CI rider with a term plan.

The premium for CI cover as a rider is typically lower as well and this can be misleadingly attractive. For example, a ₹1 crore term life cover for a 28-year old male can have a ₹10 lakh CI cover at the cost of just ₹2,500 while a standalone CI cover can cost ₹6,000, but the illnesses covered are not uniform. So, the nature and number of illnesses covered by different riders and the cap on their claim amounts should be the factors you base your decision on.

There are also CI policies with return of premium which typically cost about 50-60% more.

Premium for CI policies carry benefits under Section 80D of the Income Tax Act, 1961 starting at ₹50,000 deduction if the insured is below 60 years of age and going up to ₹1 lakh if the insured and his parents are above 60 years old.

### Range of options

CI policies range from the simple to the sophisticated and not just in terms of the quantum of cover they offer.

For example, Cigna TTK Health Insurance Company offers an extended policy that covers organ donors, offers an annual health check-up and the option to convert it into a comprehensive health plan after four years, that is a hospitalisation policy plus CI policy rolled into one.

Once your basic hospitalisation policy and any top-up policies are in place, it is time to consider a CI policy which can actually serve as a means of supporting your family through extended treatment and recovery phases.

Some extras in a hospitalisation policy are as follows.

**Free health check-up:** Typical hospitalisation policies offer a free health check-up every three or four claim-free policy years. The amount reimbursable is usually a percentage of the SI with a cap.

Depending on age at entry or if there is adverse medical history, you will have to undergo a medical check-up at the proposal stage. This cost is to be borne by you, and half of it will be reimbursed if the proposal is accepted.

**Daily allowance**

Some hospitalisation policies offer a daily cash allowance for each day of hospital stay. This is usually a percentage of the SI with an overall cap per hospitalisation.

Unless it an optional extra purchased under the policy, the daily allowance will be deducted from your SI.

There are policies that pay the hospitalisation costs incurred by the insured on an organ donor. This will not include cost of the organ and the claim for the costs of the insured and donor should be within the SI of the policy.

**Cover for a baby**

On some policies, should an insured have a baby during a policy period, it is covered from the day of its birth until policy renewal date against illnesses and injuries.

(The writer is a business journalist specialising in insurance and corporate history)

## **A potential non-addictive painkiller**

**Identified: A potential non-addictive painkiller (The Times of India: 20190520)**

Read more at:

[http://timesofindia.indiatimes.com/articleshow/69405927.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](http://timesofindia.indiatimes.com/articleshow/69405927.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

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## **Heart attacks**

**Heart attacks more severe in morning than night (The Tribune: 20190520)**

<https://www.tribuneindia.com/news/health/heart-attacks-more-severe-in-morning-than-night/774931.html>

The hidden causes of hypertension

Brain stimulation may help treat Alzheimer's disease: Study

Heart attacks more severe in morning than night

The study, published in the journal Trends in Immunology, discusses how time of the day affects severity of afflictions, ranging from allergies to heart attacks.

: Heart attacks that mostly happen in the morning tend to be more severe than cardiac arrests at night, warn researchers.

The study, published in the journal Trends in Immunology, discusses how time of the day affects severity of afflictions, ranging from allergies to heart attacks. For example, studies showed that adaptive immune responses—in which highly specialised, pathogen-fighting cells develop over weeks—are under circadian control.

Researchers compiled studies, predominantly in mice, that looked at the connection between circadian rhythms and immune responses. “This is ‘striking’ and should have relevance for

clinical applications, from transplants to vaccinations,” said study senior author Christoph Scheiermann, Professor at the University of Geneva in Switzerland.

According to researchers, in both humans and mice, the numbers of white blood cells also oscillate in a circadian manner, raising the question whether it might be possible one day to optimise immune response through awareness and utilisation of the circadian clock.

For the study, researchers looked into separate studies that compared immune cell time-of-day rhythms under normal conditions, inflammation and disease.

“Investigating circadian rhythms in innate and adaptive immunity is a great tool to generally understand the physiological interplay and time-dependent succession of events in generating immune responses,” said Scheiermann.

“The challenge lies in how to channel our growing mechanistic understanding of circadian immunology into time-tailored therapies for human patients,” Scheiermann remarked. — IANS

## **Fast walkers**

### **Fast walkers more likely to live longer: Study (The Tribune: 20190520)**

**<https://www.tribuneindia.com/news/health/fast-walkers-more-likely-to-live-longer-study/774906.html>**

Fast walkers more likely to live longer: Study

It showed that walking pace was linked to life expectancy in all individuals irrespective of weight.

People who habitually have a fast walking pace are more likely to live longer than their slow-walking peers, a study claims.

The study, conducted by researchers from the National Institute for Health Research (NIHR) Leicester Biomedical Research Centre in the UK, used data from 474,919 people.

It showed that walking pace was linked to life expectancy in all individuals irrespective of weight.

Underweight individuals with a slow walking pace had the lowest life expectancy (an average of 64.8 years for men, 72.4 years for women).

The same pattern of results was found for waist circumference measurements.

This is the first time research has associated fast walking pace with a longer life expectancy regardless of a person's body weight or obesity status.

"Our findings could help clarify the relative importance of physical fitness compared to body weight on life expectancy of individuals," said Professor Tom Yates, a professor at the University of Leicester in the UK.

"In other words, the findings suggest that perhaps physical fitness is a better indicator of life expectancy than body mass index (BMI), and that encouraging the population to engage in brisk walking may add years to their lives," said Yates, lead author of the study published in the journal Mayo Clinic Proceedings.

Studies published so far have mainly shown the impact of body weight and physical fitness on mortality in terms of relative risk, said Francesco Zaccardi, clinical epidemiologist at the Leicester Diabetes Centre.

The study showed that slow walkers were twice as likely to have a heart-related death as fast walkers, even when other risk factors such as smoking and body mass index were taken into account. — PTI

## **Hypertension**

### **The hidden causes of hypertension (The Tribune: 20190520)**

<https://www.tribuneindia.com/news/health/the-hidden-causes-of-hypertension/774463.html>

Nearly 80 million young adults in India have high blood pressure — that roughly makes it one in five persons. The rising numbers make some checks and balances imperative

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Hypertension is one of the leading causes of mortality and morbidity around the world. It is also an important risk factor for chronic disease burden in our country.

While 90-95 per cent of patients having high blood pressure (BP) have no clear causes and are classified as having primary hypertension, 5-10 per cent people may have an underlying pathology or a reversible cause behind their high BP (secondary hypertension). Primary hypertension is usually linked to genetics, poor diet, a lack of exercise and obesity. Secondary hypertension, on the other hand, can be caused by a number of uncommon causes or diseases.

Following are some of the not so common yet treatable causes of hypertension:

Kidney diseases like diabetic nephropathy, polycystic kidney disease, glomerulonephritis and nephrotic syndrome, renovascular hypertension (often in patients with coronary or peripheral atherosclerosis) may cause secondary hypertension.

Endocrine diseases such as thyroid problems, hyperparathyroidism, aldosteronism, cushing syndrome, pheochromocytoma affecting body hormone levels may also cause hypertension.

Another uncommon problem is coarctation of the aorta. Usually congenital but may not be detected until adulthood because it is often asymptomatic. Classic symptoms include upper extremity hypertension, delayed or decreased femoral pulses and low blood pressure in the lower extremities.

Other causes include sleep apnea. Common symptoms include headache, fatigue, daytime somnolence, confusion, difficulty in concentrating, depression, personality changes, hypertension, and cardiac arrhythmias. Constant lack of sleep can also increase the amount of stress hormones which can also raise BP.

Obesity, high sugar levels, pregnancy (it can make existing high BP worse, or may cause high BP to develop. Medicines and supplements such as pain relievers, birth control pills, antidepressants, steroids, sex hormones and some anti-cancer drugs used after organ transplants can cause also high BP. Over-the-counter decongestants like pseudoephedrine, phenylephrine and oxymetazoline and herbal supplements like ginseng, licorice and ephedra may cause high BP. Drugs such as cocaine and methamphetamine and stimulants like caffeine may also increase BP.

The Dietary Approaches to Stop Hypertension (DASH) diet is rich in whole grains, fruits, vegetables and low-fat dairy products and low on saturated fat and cholesterol. It can lower BP by up to 11 mm Hg.

According to many studies certain foods can lower high BP.

Beneficial foods

Berries: Blueberries and strawberries contain anthocyanins that help reduce BP.

The American Society of Nephrology has raised concerns over low potassium intake in the diet as a major factor for hypertension. Low potassium intake also raises risk of stroke. Potassium deficiency leads to hypertension because potassium lessens the effect of sodium. The more potassium you eat, the more sodium you lose through urine. Recommended potassium intake for an average adult is 4700mg/day.

Beets: High levels of inorganic nitrate in beets reduce BP.

Watermelon: Watermelon contains an amino acid called citrulline, which helps to manage high BP.

**Oats:** Oats contain a fibre called beta-glucan, which may reduce blood cholesterol levels and BP levels.

**Garlic:** Eating garlic can increase a person's nitric oxide levels. Garlic is a natural antibiotic and antifungal food. Its main active ingredient, allicin has many health benefits.

**Fermented foods:** These foods are rich in probiotics (beneficial bacteria that are vital for gut health). Probiotics have a modest effect on high BP.

**Lentils and other pulses:** Lentils are an excellent source of vegetarian protein and fibre and can help decreased blood pressure and cholesterol levels .

**Natural yogurt:** The America Heart Association says that yogurt may reduce the risk of high blood pressure in women.

**Pomegranates:** Drinking one cup of pomegranate juice daily for four weeks can lower high BP in the short term.

**Cinnamon:** Cinnamon may also help to reduce blood pressure. A study showed that cinnamon decreased short-term systolic blood pressure by 5.39 mm Hg and diastolic blood pressure by 2.6 mm Hg.

**Mushroom:** Mushroom consumption is associated with less plaque formation in the brain and protects the brain cells from the progressive damage.

**Bananas:** Bananas contain potassium, a mineral that is vital in managing hypertension. Other potassium-rich foods are avocado, cantaloupe and honeydew melon, halibut (flat fish), mushrooms, sweet potatoes, tomatoes, tuna and beans.

**Kiwis:** A daily serving of kiwis can reduce blood pressure in people with mildly elevated levels, says a study. Kiwis are also rich in vitamin C. People who consumed 500 mg of vitamin C every day for about 8 weeks had lowered BP readings.

**Dark chocolate:** Cocoa-rich chocolate reduces blood pressure in people with hypertension or prehypertension. One ounce of unsweetened chocolate that contains a minimum of 70 per cent cocoa is recommended in a day.

**Leafy green vegetables:** Leafy green vegetables are rich in nitrates, which help to manage blood pressure. Some studies say eating 1–2 servings of nitrate-rich vegetables daily can reduce hypertension for up to 24 hours.

**Foods to avoid**

While some foods may relieve hypertension, others can cause substantial increases in blood pressure. Hence these should be avoided

**Salt:** High sodium intake can significantly raise blood pressure. According to a study, lowering salt intake by 4.4 gm daily substantially reduced systolic and diastolic blood pressure.

**Alcohol:** Consuming moderate amounts of red wine may have be beneficial, but larger amounts of alcohol can cause dramatic increases in BP. Excessive intake also increases the risk of heart failure, stroke, cancer, and obesity.

—The writer is head, cardiac surgery and cardio-thoracic vascular surgery, Fortis Memorial Research Institute, Gurugram

## **Novel microscope**

### **Novel microscope can non-invasively diagnose, treat diseases: Study (The Tribune: 20190520)**

<https://www.tribuneindia.com/news/health/novel-microscope-can-non-invasively-diagnose-treat-diseases-study/774905.html>

Scientists have developed a specialised microscope that has the potential to diagnose diseases like skin cancer as well as perform precise surgery without making any incisions in the skin.

According to the study published in the journal Science Advances, the microscope allows medical professionals to pinpoint the exact location of an abnormality, diagnose it and treat it instantly.

"Our technology allows us to scan tissue quickly, and when we see a suspicious or abnormal cell structure, we can perform ultra-precise surgery and selectively treat the unwanted or diseased structure within the tissue—without cutting into the skin," said Yimei Huang from the University of British Columbia in Canada.

It could be used to treat any structure of the body that can be reached by light and requires extremely precise treatment, including nerves or blood vessels in the skin, eye, brain or other vital structures, researchers said.

"For diagnosing and scanning diseases like skin cancer, this could be revolutionary," said Harvey Lui, professor at the University of British Columbia.

The study shows that the device allows imaging of living tissue up to about one millimetre in depth using an ultrafast infrared laser beam.

Researchers said that this microscope, however, is different from previous technology due to its capability to not only digitally scan living tissue, but also treat the tissue by intensifying the heat produced by the laser.

"We can alter the pathway of blood vessels without impacting any of the surrounding vessels or tissues," said Lui.

The researchers also said that their aim is to make multiphoton microscope technology more versatile while also increasing its precision.

"We wanted to be able to identify what was happening under the skin from many different angles and to have the capability of imaging different body sites," said Haishan Zeng from the University of British Columbia.

Developments of a miniature version of the telescope that could be used to perform microscopic examinations and treatment during endoscopy are also underway, researchers said.

"We are not only the first to achieve fast video-rate imaging that enables clinical applications, but also the first to develop this technology for therapeutic uses," said Zeng. — PTI

### **Chronic fatigue syndrome (The Tribune: 20190520)**

<https://www.tribuneindia.com/news/health/tired-out/774460.html>

Tired out

Extreme, long-lasting fatigue or chronic fatigue syndrome can often be misdiagnosed. There is a need for awareness about it as its incidence is on the rise in India

Dr M Udaya Kumar Maiya

Chronic fatigue syndrome (CFS) is a long-term condition of a complex nature. While the causes are not yet known, its impact can be quite significant. The symptoms of CFS can vary from one person to another, causing varied physical impact. In medical parlance, this condition is also referred to as myalgic encephalomyelitis (ME). It is estimated that this problem afflicts about 17 to 24 million people globally. There are no official estimates for India but the number of cases is rising.

There is no apparent permanent cure for CFS, and it is difficult to diagnose as well. Extreme fatigue on its own is generally taken seriously. It can also be taken as a symptom of many other diseases. Hence, there are chances of misdiagnosis or a delayed diagnosis.

Diagnosing the syndrome

One of the major challenges in establishing CFS is the absence of any standardised test. The typical way is to eliminate other likely causes for the symptoms to reach a conclusion. An early

identification of the problem can facilitate quicker symptom management. As part of the diagnostic process, the patient undergoes physical and mental examination on various parameters to zero-in on the actual problem. The physician generally enquires about recent travel, insect bites, infections, substance or alcohol dependence etc. This is followed by various tests and monitoring of medication given.

Diagnosis happens usually after three to four months of monitoring the situation and establishing the pattern in which the symptoms occur. During this period, multiple regular blood tests are conducted to check whether the symptoms are caused by other likely illnesses. A more intensive examination of the patient may be required if there is uncertainty about the cause of the symptoms.

### Managing the problem

CFS is an incurable, but manageable ailment. The severity of the disease varies from person to person, and it is highly recommended that those suffering from the symptoms to contact a specialist and follow recommendations. Treatment can only help keep the symptoms under control. Alongside medication, they are often required to make changes to their daily lifestyle to cushion the impact of this ailment.

Treatment is usually long and can include medication or cognitive behavioural therapy. Most people recover with treatment, although it may take two years or even years. Those who are diagnosed early (within two years of the beginning of the symptoms) respond better to treatment.

Lifestyle and diet changes are recommended. The diet should include more protein, moderate amount of carbohydrates and more antioxidants and good fats like omega 3. probiotics should also be included regularly.

Avoid sugary and refined foods as they suppress the immune system and increase inflammation, lead to a rapid rise in blood sugar, followed by a crash (hypoglycaemia). It can cause fatigue, anxiety and cravings. Avoid caffeine as it is a diuretic and aggravates adrenal exhaustion, and amplifies anxiety, stress and fatigue-related symptoms.

A break from gadgets can check mental fatigue. Arm yourself to tire out the fatigue.

### Symptoms

A panel at the Institute of Medicine, USA, in a report on CFS suggests a simple four-point criteria for its diagnosis: extreme fatigue lasting at least six months, complete exhaustion after even minor physical work or mental exertion, not feeling refreshed even after sleep and cognitive impairment (brain fog).

Fatigue: Fatigue or burn-out is a condition where a person's ability to undertake routine tasks is greatly diminished. In the eventuality of CFS, fatigue usually lasts for about six months or longer from the time of starting medication. It must be understood here that in the context of

CFS, fatigue is not the feeling of exhaustion or lack of motivation that a person might experience after a long journey or a strenuous work day. Those affected with CFS are typically not able to feel rejuvenated even after sleep, rest or a vacation. In fact, rest might even worsen the situation in certain cases. CFS makes it difficult to carry out even the basic everyday tasks like carrying a food tray, taking a shower, cooking or taking a walk.

Problems with sleep: People affected by CFS experience various sleep disorders. The most common problem is waking up exhausted, even after resting throughout the night. There are some disorders that can result in sleep that doesn't provide rest such as insomnia (lack of sleep), hypersomnia (too much sleep), sleep apnea (a condition where a person temporarily stops breathing while sleeping), shallow sleep, light sleep, and body clock disorder (unable to sleep until daybreak).

Cognitive disability: People suffering from CFS face several types of cognitive challenges. They might become forgetful and find it difficult to recall conversations or losing their belongings. They often find it tough to keep up with the narrative of films or books. Basic cognitive tasks or simple problem solving might cause severe energy depletion.

Alternatively, CFS-affected people start losing their way even in their familiar environment like neighbourhoods. They may not recall simple directions, locations or to follow written instructions. They may find it difficult to sit or stand up from a certain position. They experience dizziness, might faint, or have blurred or darkened vision.

— The writer is medical director, Portea Medical

## **Alzheimer's disease**

### **Brain stimulation may help treat Alzheimer's disease: Study (The Tribune: 20190520)**

<https://www.tribuneindia.com/news/health/brain-stimulation-may-help-treat-alzheimer-s-disease-study/774398.html>

Magnetic stimulation of the brain improves working memory, according to a study that may lead to a new therapy for individuals living with Alzheimer's disease and other forms of dementia.

The study, published in the journal PLoS One, found that healthy younger and older adults who received repetitive transcranial magnetic stimulation (rTMS) therapy performed better on a memory task than those who received placebo.

Working memory is the process of recalling and then using relevant information while performing a task.

It is a key component of day-to-day tasks like driving to a new location, making a recipe, or following instructions.

"This study relies on highly individualised parameters, from the selection of the stimulated target, based on fMRI activation, to the selection of the difficulty, titrated according to subjects' performance," said Lysianne Beynel, a postdoctoral associate at Duke University in the US.

Functional magnetic resonance imaging or functional MRI (fMRI) measures brain activity by detecting changes associated with blood flow.

"Now that we have shown that these specific parameters can improve performance in healthy subjects, we will be able to extend it to populations with memory deficits," said Beynel.

Individuals with Alzheimer's disease, which will more than double by 2050, and other forms of dementia, experience progressive loss of working memory and other forms of cognition, researchers said.

This leads to a greater risk of injury or death and reduces their ability to function without home care, they said.

Twenty-nine young adults and 18 older adults completed the study, which involved trying to remember and then reproduce a series of letters in alphabetical order.

The researchers applied either online high-frequency (5Hz) rTMS, or a placebo-like sham over the left prefrontal cortex, an area on the brain responsible for higher executive function.

Participants of all ages who received rTMS performed better than those who received the rTMS-like placebo.

"Interestingly, we only saw this effect during when participants were trying their hardest, suggesting a real use-it-or-lose it principle at work here," said Simon W Davis from Duke University.

"Contrary to much of what we hear, ageing brains have a remarkable capability to remember past events and to use that information in a flexible manner.

"The brain stimulation applied in our study shows that older adults benefited just as much as the young," Davis said. — PTI

# एम्स : 23% मरीज इलाज से खुश नहीं

9,940 मरीजों से फीडबैक में सामने आई बात



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■ **नई दिल्ली :** देश के सबसे बड़े अस्पताल एम्स में दिखाने आया औसतन हर चौथा मरीज इसके इलाज और दूसरी सुविधा से खुश नहीं है। 23 परसेंट मरीज एम्स में मिलने वाली इलाज और सुविधाओं से नाराज हैं। सबसे ज्यादा लोग इमरजेंसी और सर्जरी विभाग के इलाज से संतुष्ट नहीं थे। 28 परसेंट मरीज इन विभागों के इलाज से खुश नहीं पाए गए। एम्स में 9,940 मरीजों के फीडबैक में ये बातें सामने आई हैं। 77 परसेंट लोग इलाज से खुश हैं।

केंद्र सरकार ने मेरा अस्पताल फीडबैक की शुरुआत की है। इसके आधार पर एम्स में फीडबैक लिया गया। फीडबैक में एम्स ने हर डिपार्टमेंट के बारे में लोगों की राय ली थी। लोगों की नाराजगी की सबसे बड़ी वजह 35 परसेंट स्टाफ का व्यवहार पाया गया। 13 परसेंट मरीजों ने एम्स में इलाज के स्तर और 12 परसेंट ने इलाज के खर्च को लेकर नाराजगी जाहिर की है।

15 डिपार्टमेंट में से कार्डियोलॉजी विभाग के इलाज से सबसे ज्यादा मरीज संतुष्ट नजर आए। 84 परसेंट लोग इस विभाग के इलाज से खुश थे। सबसे ज्यादा वेटिंग इसी

विभाग में रहती है। डॉक्टरों की मांनें तो वेटिंग तो सिस्टम की मजबूरी है, लेकिन जो यहां से इलाज कराकर जाते हैं, उन्हें नई और बेहतर जिंदगी मिलती है।

इसके बाद आंखों के इलाज के लिए आरपी सेंटर पहुंचे 80 परसेंट मरीजों की राय सकारात्मक थी। इसी तरह पीडिएट्रिक्स और सायकायट्री विभाग का भी फीडबैक 80 परसेंट पाया गया। ट्रॉमा सेंटर का 79 परसेंट, न्यूरोलॉजी 78, मेडिसिन 79, ईएनटी 75, स्किन विभाग के इलाज को 78 परसेंट ने सही ठहराया। इमरजेंसी विभाग से 72 परसेंट लोग खुश थे।

## स्टाफ का व्यवहार खराब !

- 35% मरीज स्टाफ के व्यवहार से नाराज
- 13% मरीजों ने एम्स में इलाज के स्तर बताया खराब
- 12% इलाज के खर्च को लेकर नाराज थे
- 84% परसेंट लोग कार्डियोलॉजी विभाग के इलाज से खुश

## **Brain Cancer (Hindustan: 20190520)**

[http://epaper.livehindustan.com/textview\\_18953\\_88218926\\_4\\_1\\_16\\_20-05-2019\\_1\\_1.html](http://epaper.livehindustan.com/textview_18953_88218926_4_1_16_20-05-2019_1_1.html)

एक नए शोध में पता चला है कि ऐसी मछलियां जिनमें जबड़े नहीं होते, उनमें एक प्रकार का रसायन पाया जाता है जिसके जरिए ब्रेन ट्यूमर में कैंसर रोधी दवाएं सीधे तौर पर पहुंचाई जा सकती हैं। यह शोध साइंस एडवांसेज पत्रिका में प्रकाशित हुआ है।

अन्य विकारों का भी होगा उपचार : शोध में पाया गया कि परजीवी सी लैम्प्रे के प्रतिरोधक तंत्र में पाए जाने वाले अणुओं को अन्य उपचारों के साथ मिलाया जा सकता है और इससे अन्य प्रकार के विकार जैसे 'मल्टीपिल किलरोसिस' अल्जाइमर और 'आघात' का उपचार हो सकता है। अमेरिका के मैडिसन-विस्कॉन्सिन विश्वविद्यालय के प्रोफेसर एरिक शूस्ता कहते हैं, ' कई स्थितियों में इसे मूल प्रौद्योगिकी के रूप में इस्तेमाल किया जा सकता है।' शोधकर्ताओं का कहना है कि जब दवाओं को इंजेक्शन के जरिए दिया जाता है तो कई दवाएं मस्तिष्क के लक्षित हिस्से तक पहुंच नहीं पाती क्योंकि रक्त-मस्तिष्क अवरोधक बड़े अणुओं को जाने से रोकते हैं। ब्रेन कैंसर, ट्रॉमा जैसी स्थितियों में ये अवरोधक रोग वाले क्षेत्र में छिद्रयुक्त हो जाते हैं।

## **Antibiotic (Hindustan: 20190520)**

लंदन। एंटीबायोटिक के प्रयोग से तंत्रिकाओं के क्षतिग्रस्त होने का खतरा बढ़ सकता है। एक अध्ययन में पता चला है कि श्वसन तंत्र और मूत्र मार्ग के संक्रमण का इलाज करने के लिए एंटीबायोटिक ली जाती हैं। लेकिन इनके सेवन से मरीज की तंत्रिकाओं को गंभीर और स्थायी रूप से पीड़ित होने का खतरा लगभग 50% बढ़ सकता है। ब्रिटेन की डूंडी यूनिवर्सिटी के वैज्ञानिकों ने 13 लाख से लोगों से जुड़े आंकड़ों का विश्लेषण किया।

## **Sleeping (Hindustan: 20190520)**

अंतिम वर्ष के जो छात्र रात को आठ घंटे नहीं सोएंगे उनके ग्रेजुएट होने की संभावना 40 फीसदी तक कम हो जाएगी। एक हालिया शोध में यह दावा किया गया है। शोध में नींद की कमी और कम ग्रेड पॉइंट एवरेज (जीपीए) में संबंध पाया गया है। इससे ग्रेजुएट होने की संभावना कम हो जाती है।

हालांकि, प्रथम वर्ष में नींद की कमी से जूझ रहे छात्रों के ग्रेजुएट होने की संभावना कम नहीं होती अगर वो अंतिम वर्ष तक आते-आते अपने सोने की बुरी आदतें सुधार लें तो, शोधकर्ताओं ने कहा कि नींद की कमी उन लोगों में ज्यादा होती है जो पढ़ाई, सामाजिक जिंदगी और पार्ट टाइम नौकरी के बीच में उलझे होते हैं। शोधकर्ताओं के अनुसार नींद की कमी के कारण पढ़ने की क्षमता प्रभावित होती है और याददाश्त में भी कमी आती है।