

Unlocking the health benefits of vitamin D

Vitamin D is essential for various bodily functions, including supporting your immune system, muscles, and bones. It helps your body absorb important minerals like calcium and phosphorus, keeping bones strong. You can get vitamin D through sunlight, certain foods like fatty fish and fortified dairy, or supplements.

Studies suggest a link between low vitamin D and depression, though it is unclear if a deficiency causes depression or vice versa. Research is ongoing to determine if increasing vitamin D can help boost mood.

Vitamin D also plays a role in preventing conditions like osteoporosis, a bone disease common in older adults. It may even reduce the risk of developing multiple sclerosis and some cancers, like breast and colon cancer.

Getting enough vitamin D can be tricky, especially for those who avoid sunlight, have darker skin, or are older. Low levels may lead to muscle pain, slow wound healing, and conditions like rickets or osteomalacia, which cause soft or weakened bones.

For those with digestive issues or who have had gastric bypass surgery, absorbing vitamin D may be more difficult, increasing the risk of deficiency. Regular blood tests can help monitor your vitamin D levels, and supplements may be recommended if you are at risk of deficiency.

While vitamin D is crucial, it is important to avoid oversupplementing, as too much can be harmful. Moderation, combined with a balanced diet and regular sunlight exposure, is key to maintaining healthy levels.



A silent struggle of Cystic Fibrosis in Bangladesh

DR RAHAT BIN HABIB

September 8th is the Cystic Fibrosis (CF) Day, which is celebrated globally by patients, parents, and healthcare professionals to raise awareness and support. Cystic Fibrosis (CF) is a genetic disorder that disrupts the lungs and digestive system by causing the production of thick, sticky mucus. This mucus leads to blocked airways, making breathing difficult and increasing the risk of lung infections.

Common symptoms include chronic cough and digestive problems such as poor growth and greasy stools. In infants, CF may present as poor weight gain and skin that tastes unusually salty.

In Bangladesh, CF is relatively rare and often underdiagnosed due to limited awareness and resources. The condition is often underdiagnosed or misdiagnosed due to this lack of awareness and the misconception that it primarily affects Caucasian populations. However, we have more than 200 CF cases from primary and secondary data. The exact prevalence is unclear, but it is less common compared to Western countries. Many cases are misdiagnosed as other respiratory or digestive conditions, partly due to a lack of awareness among healthcare professionals and the general population.

CF is inherited, requiring both parents to be carriers of the CF gene. While more prevalent in people of European descent, CF can affect individuals from any country, including Bangladesh.

Diagnosis involves several key tests. The sweat chloride test measures the amount of chloride (salt) in sweat, with elevated levels indicating CF. Genetic testing identifies mutations in the CFTR gene, confirming the diagnosis. Radiological exams, like chest X-rays or High-Resolution Computed Tomography (HRCT) scans, help evaluate lung damage and mucus buildup.

In Bangladesh, treatment options for cystic fibrosis are gradually improving but still remain limited. A few hospitals in Dhaka provide specialised care, including medications and physiotherapy. Enhancing awareness and promoting early diagnosis are crucial steps toward better management and quality of life for individuals with CF. We hope to explore the potential of gene therapy in the future.

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Lung cancer symptoms: what you must know

STAR HEALTH DESK

Lung cancer often develops without showing any symptoms in its early stages. The lungs do not have many nerve endings, so a tumour can grow without causing noticeable pain. This makes it difficult for many people to detect lung cancer until it has advanced and spread to other parts of the body.

When lung cancer symptoms do appear, they may include:

- A chronic, raspy cough, sometimes with blood-streaked mucus
- Changes in a long-standing cough
- Recurring respiratory infections, like bronchitis or pneumonia
- Shortness of breath that worsens over time

- Wheezing, lasting chest pain, hoarseness, and trouble swallowing
- Shoulder pain

These symptoms typically occur when a tumour blocks airways or cancer spreads to nearby tissues.

Symptoms of early-stage lung cancer:

At Stage I, lung cancer is usually symptomless. It is often caught through screenings rather than the patient noticing symptoms. However, some signs may include a persistent new cough, coughing up blood or mucus, shortness of breath, chest pain, or frequent infections like bronchitis or pneumonia.

Symptoms of advanced lung cancer:

In Stage IV, when the cancer spreads to more areas of the lungs or other parts of the body, additional symptoms may develop, such as:

- Fatigue and weakness
- Loss of appetite and weight loss
- Headaches, numbness, or seizures if the cancer has reached the brain

Other uncommon symptoms:

Some symptoms of lung cancer affect parts of the body not directly connected to the lungs, such as:

- Clubbing of the fingers, where the nails curve and fingers appear larger
- High calcium levels in the blood, leading to stomach upset, thirst, frequent urination, or confusion
- Horner syndrome, which causes a drooping eyelid, a smaller pupil, and less sweating on one side of the face
- Swelling in the face, neck, or arms due to restricted blood flow

Skin-related symptoms

Lung cancer can also cause certain skin issues, such as jaundice (yellowing of the skin and eyes) or easy bruising due to interference with adrenal glands.



Lung cancer is the leading cause of cancer deaths globally, but the rates have been decreasing. However, the decline is not as significant among younger women. This has raised questions among experts, with genetic factors possibly playing a role. Historically, lung cancer has been associated with older men who smoke, so doctors may not immediately suspect the disease when a nonsmoking young woman presents with symptoms like a persistent cough or recurring respiratory infections.

Types of lung cancer and their symptoms:

There are two main types of lung cancer: non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC). NSCLC is more common, making up about 85% of cases. It has three subtypes:

1. *Adenocarcinoma*: More common in women and nonsmokers, usually found in the outer areas of the lungs.
2. *Squamous cell carcinoma*: Typically forms in the central part of the lungs near the airways.
3. *Large cell carcinoma*: Can develop anywhere in the lungs and tends to grow faster.

SCLC, while less common, spreads quickly and is more strongly linked to smoking. It is also more likely to cause symptoms like bone pain, confusion, seizures, and paralysis.

Both NSCLC and SCLC share many symptoms, such as coughing, chest pain, wheezing, and hoarseness. SCLC is more likely to cause hypercalcemia (high calcium levels) and problems with the adrenal glands.

When to see a doctor:

If you experience persistent coughing, coughing up blood, frequent respiratory infections, or wheezing, it is important to see a doctor. Additionally, sudden shortness of breath, coughing up large amounts of blood, chest pain that does not go away, sudden vision problems, or weakness should prompt an immediate visit to the emergency room.

Takeaways:

Lung cancer often goes unnoticed in its early stages due to the lack of symptoms. Common signs include a persistent cough, chest pain, and recurring infections. It is important to consult a doctor if you are concerned, as early detection improves the chances of successful treatment.

While lung cancer is a serious diagnosis, treatments are improving, and survival rates are increasing, particularly when the disease is caught early.



A new hope for asthma remission

Asthma treatment has come a long way, and now the focus is not just on managing symptoms but on achieving "remission"—a state where symptoms are nearly gone while on therapy. While new medications have helped many people, some types of asthma, especially those without typical allergic reactions, remain harder to treat effectively.

Recent findings from the AMAZES trial bring some promising news. In the original study, patients with uncontrolled asthma who took Azithromycin three times a week for a year saw a significant reduction in asthma flare-ups. Now, a follow-up analysis has revealed that many of these patients achieved remission.

In fact, more than half of the patients who took Azithromycin experienced long periods without asthma attacks or the need for oral steroids, compared to only 39% of those on a placebo. This improvement was seen in patients regardless of whether they had the type of asthma that is typically linked to allergies.

While Azithromycin is not a cure, it could offer new hope for those struggling with asthma that do not respond well to standard treatments, allowing them to enjoy a better quality of life with fewer symptoms and disruptions. You must discuss with your physician about experimenting this new treatment option.

WHO prequalifies the first vaccine against Mpox

STAR HEALTH REPORT

The World Health Organisation (WHO) has announced the addition of the MVA-BN vaccine to its prequalification list, marking the first vaccine prequalified for mpox. This step is expected to significantly accelerate access to the vaccine in communities where controlling the spread of mumps is a priority.

The vaccine, produced by Bavarian Nordic A/S, underwent a rigorous review process with the European Medicines Agency, its regulatory body. WHO Director-General Dr Tedros Adhanom Ghebreyesus highlighted the importance of this development in the ongoing fight against mpox, particularly in Africa, where outbreaks have been persistent. He emphasised the need for urgent global action in procuring and distributing the vaccine to ensure equitable access for those most in need.

The MVA-BN vaccine is recommended for people aged 18 and older and is administered as a two-dose injection, with the second dose given four weeks after the first. It can be stored at standard refrigeration temperatures (2-8°C) for up to eight weeks. Although the vaccine is not licensed for people under 18, WHO suggests that it may be used off-label in younger individuals, pregnant women, and those with compromised immune systems in high-risk situations.

Dr Yukiko Nakatani, WHO Assistant Director-General for Access



to Medicines and Health Products, stated that the prequalification would expedite procurement by international organisations such as Gavi and UNICEF, helping to bring the vaccine to the regions most affected by the ongoing mpox emergency. Additionally, this decision may encourage national regulatory authorities to fast-track approvals, thereby increasing global access to this crucial vaccine.

The WHO Strategic Advisory Group of Experts (SAGE) on Immunisation has thoroughly reviewed available evidence and recommended the use of the MVA-BN vaccine during mpox outbreaks, particularly for those at high risk of exposure. In situations where vaccine supply is limited,

WHO advises administering a single dose to stretch resources. Data has shown that a single dose of the MVA-BN vaccine can be 76% effective in preventing mpox when given before exposure, while the two-dose schedule increases effectiveness to 82%.

Vaccination after exposure to the virus is generally less effective, emphasising the importance of pre-exposure vaccination in high-risk populations. Additionally, the MVA-BN vaccine has demonstrated a strong safety profile and consistent performance in clinical trials and real-world use during the ongoing global outbreak, which began in 2022.

As the virus continues to evolve, WHO emphasises the importance of collecting

data on vaccine safety and effectiveness across different settings. Since the WHO Director-General declared a public health emergency of international concern (PHEIC) in August 2024, the organisation has conducted assessments of the MVA-BN vaccine's suitability for emergency use and prequalification.

In addition to the MVA-BN vaccine, WHO is progressing with prequalification and emergency use listing procedures for two other mpox vaccines—LC-16 and ACAM2000. Furthermore, WHO has received expressions of interest from six companies for the emergency use listing of mpox diagnostic products, further expanding global capacity to detect and respond to outbreaks.

The ongoing mpox outbreak, particularly severe in the Democratic Republic of the Congo, was declared a PHEIC in August 2024. Since the global outbreak began in 2022, more than 103,000 cases of mpox have been confirmed across 120 countries. In 2024 alone, there have been over 25,000 suspected and confirmed cases, and 723 deaths reported from 14 African countries.

As the situation continues to unfold, WHO's prequalification of the MVA-BN vaccine marks a critical step in the fight against mpox, ensuring that vulnerable populations have better access to life-saving vaccines and tools to stop the spread of the disease.

Source: World Health Organisation

Global strategic plan to combat Mpox outbreaks

The World Health Organisation (WHO) has launched a global Strategic Preparedness and Response Plan (SPRP) to curb human-to-human transmission of mpox. The plan, running from September 2024 to February 2025, outlines coordinated efforts at global, regional, and national levels. WHO projects a funding need of US\$135 million and will soon launch an appeal for financial support.

The SPRP focusses on comprehensive surveillance, prevention, and readiness strategies while also advancing research and equitable access to medical countermeasures such as diagnostic tests and vaccines. Key efforts will target individuals at high risk, such as healthcare workers and close contacts of confirmed cases, to interrupt transmission chains.

Collaboration with organisations like the Africa Centres for Disease Control and Prevention (Africa CDC), the Coalition for Epidemic Preparedness Innovations (CEPI), and other global partners is critical. A virtual scientific conference on 29-30 August 2024 will align mpox research with outbreak control goals.

In Africa, where the need is most pressing, WHO's Africa Regional Office (AFRO) and Africa CDC will lead the response with a unified plan and budget. Dr Tedros Adhanom Ghebreyesus, WHO Director-General, emphasised the importance of a coordinated global effort, stressing equity, solidarity, and community empowerment.

This plan builds on previous WHO recommendations and aims to enhance preparedness and response capabilities in affected regions, particularly in the Democratic Republic of the Congo and neighbouring countries.

Source: World Health Organisation

Breaking through the fog



Imagine your brain is a room filled with bright lights, everything clear and easy to see. Then, one day, a thick fog rolls in, dimming the lights. Tasks that were once second nature—making decisions, remembering where you put your keys—now feel like navigating in the dark. This is what living with brain fog from depression can feel like.

You might sit down to focus on work, only to find your thoughts scattered and your mind wandering. Conversations blur together, and even following a simple to-do list becomes frustrating. This is not just forgetfulness; it is a cognitive slowdown caused by depression. The brain, weighed down by sadness and exhaustion, struggles to function as it used to.

Many people do not realise that brain fog is a real and treatable symptom of depression. It is the mind's way of signalling that something deeper is going on. But as isolating as it feels, there is hope. Therapy, medication, and even lifestyle changes like exercise and better sleep can help clear the fog. It might take time, but with support, the haze can lift, allowing the brain to regain its clarity and sharpness.

In the end, brain fog is a symptom, not a permanent state. When treated, those lost thoughts and fading memories begin to resurface, and the world becomes bright again.