



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Friday 20170324

Tuberculosis

Govt rollout of TB drug slow, say experts (The Indian Express:20170324)

<http://indianexpress.com/article/india/govt-rollout-of-tb-drug-slow-say-experts/>

Bedaquiline may be the answer to several drug resistant patients in India, but the government is extra cautious about the rollout.

SHAHIDA Bano was lucky, doctors believe. On November 4, 2016, multiple tests confirmed she had multi-drug resistant (MDR) tuberculosis. Within three months, on February 7, the young mother, a Mumbai slum-dweller, was part of a national clinical trial for Bedaquiline, the first effective drug for TB to have made an appearance in 50 years.

At 22, Shahida is frail and shivers often, but can feel the drug improve her strength everyday. "I weigh 44 kg. The joint pain never goes. When drugs had no effect, the doctor asked if I want to try Bedaquiline. They say it can cause heart problems, but I will try anything," she says. Admitted at Sewri TB Hospital, she hopes to return, cured, to her Wadala shanty. Her husband, a driver, and their one-year-old son have been kept at a distance due to the risk of infection.

Bedaquiline may be the answer to several drug resistant patients in India, but the government is extra cautious about the rollout. The drug has been approved for only 600 patients for a six-month regime. Shahida is one among over 200 patients selected so far including 68 in Mumbai.

But not every drug resistant TB patient is as lucky as Shahida.

A 22-year-old Ghatkopar resident, Pooja Patel, required this sought-after drug, having visited private doctors for years before approaching Medecins Sans Frontieres (MSF) in 2016 with

severe malnourishment and damaged lungs. Her only hope was a new drug such as Bedaquiline. “But it was too late. She passed away last November, before we could procure it,” says Dr Pramila Singh, MSF clinic coordinator.

Experts say that like Singh, 30 per cent (over 43,000) of India’s drug resistant TB population may be in need of Bedaquiline. The Revised National Tuberculosis Control Programme (RNTCP) recently requested the government to fund Bedaquiline for 10,000 patients, but activists say the talks led nowhere. A Lancet report claims 1.9 lakh drug resistant patients die annually — the largest numbers are in India, along with Russia and South Africa.

“The rollout in India is glacially slow. How sad is it that patients have to access the court to get the drug,” says chest physician Zarir Udwadia, who has treated 30 patients with Bedaquiline since 2014 and found a 70 per cent success.

A Thane girl, aged 20, now suffers from extremely resistant TB. In years of treatment, she has consumed about 10,000 pills and hundreds of injections, to no avail. Recently, she was referred to Mumbai’s RNTCP for Bedaquiline enrollment. While she is eligible, there is no trained physician to monitor her if she is put on the regime.

“She may have to shift to Mumbai for treatment. There are several patients like her who live in rural regions where there is no training on Bedaquiline,” a government official said.

According to Erica Lessem, activist with the US-based Treatment Action Group, by restricting access to Bedaquiline, “the government is practically guaranteeing the development and spread of TB”.

‘I lost my hearing to toxic TB drugs, time we declared war on the disease’ (The Times of India:20170324)

<http://epaperbeta.timesofindia.com/Article.aspx?eid=31808&articlexml=I-lost-my-hearing-to-toxic-TB-drugs-24032017021017>

TB not only kills two Indians every three minutes, it leaves behind internal scars and disabilities that change people's lives forever. On World TB Day, a first-person account by a young journo who fights on

This past month, as I read about an 18-year old Patna girl's ordeal with tuberculosis (TB) and her battle to access the lifesaving drug bedaquiline, I couldn't help but recount the horrors of my own experiences with the disease, which I have had for close to eight years. Just like the Patna teenager, extrapulmonary TB shrunk me from 55kg to 32kg. It also left me almost

completely deaf--a condition that I have lived with for over three years now. My battle began in August 2007, a month after I started graduate studies at Ramnarain Ruia College. I was 17.

The first symptoms were severe abdominal pain, evening fever and loss of appetite. I went to a general practitioner who diagnosed me with viral fever. Despite medication, the symptoms would return after a few days. I changed doctors, but it didn't help. Then, I decided to see an infectious diseases specialist. Her diagnosis was intestinal TB (also called abdominal Koch's). Until then, I thought TB only affected the lungs. I was perplexed and confused. I finished my semester exams in October with difficulty, and was put on the basic TB drugs in November 2007--a good three months after the first symptoms.

Consuming 15 tablets a day and battling their side-effects--nausea, vomiting, and weakness--affected my self-esteem. I worried about losing out on college experiences such as forming friendships and creating memories like other students. My doctor also warned me against telling others about my disease because of the stigma attached to TB. I had to hide it as if it were my fault. I was declared TB-free in 9. Overjoyed, I studied hard 2009. Overjoyed, I studied hard and went on to pursue PG studies at the Indian Institute of Mass Communication, Delhi. I later accepted a job at a media house and thereafter returned to Mumbai to study further and pursue my career.

Without warning, the bacteria returned to haunt me. On May 22, 2013, as sunset gave way to a moonlit sky, I held my mother's hand and broke down, as the doctor informed us of a possible intestinal reinfection. A CT scan and sonography confirmed our worst fears. Life as I knew it was going to change, forever. I was 23.

The infection was severe and the available drugs proved ineffective. Surgery was the only option, I was told. On my father's birthday, July 24, I was wheeled into the operating theatre, for what would be the first of six major surgeries. Although the surgery was declared a success initially, my condition worsened soon after. I was transferred to a multispecialty hospital--and went through a cruel play of life and death as the bacteria spread to other digestive organs.

I never felt lonelier as I fought to stay alive in the ICU, far from family and friends. As my condition deteriorated, my parents were forced to ask the question every parent dreads: "Will my child survive?" I did, and finished what I thought was my quota of suffering. But, life was yet to throw the biggest curveball. On November 22, 2013, two days after my 24th birthday, I woke up to pin-drop silence. I was diagnosed with 70 % hearing loss; it has since deteriorated to 90 % (profound deafness), due to a rare side-effect of Kanamycin, a second-line TB drug. A conversationalist all my life, the impairment is a stark contrast to the very person I am.

I took to dance as a way to heal my wounds, and gave two Bharatanatyam performances, without hearing the music. As a deaf dancer, I could only sense the rhythm through my hearing aid, but dance helped me embrace the new tunes in my life with renewed confidence.

Tough as it has been, I am lucky to be alive. With 2.8 million new cases in 2015, India has the highest TB burden worldwide, but it is mostly swept under the carpet.

We need to raise awareness. We need less toxic drugs and timely diagnosis, through increased government funding to TB research. The disease not only ravages the body but financially ruins victims. My illness cost me four years of lost productivity and wages, as well as skyrocketing medical expenses and a huge out-of-pocket expenditure (Rs 40-50 lakh). My family bore the entire burden.

As a journalist and a TB advocate, my sole purpose for speaking up is to ensure that no one ever has to endure the horrors I have. It's time to tackle TB on a war footing.

Tuberculosis (The Asian Age:20170324)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=7716922>

Resistance risk for new TB drugs, claims study

TEENA THACKER
NEW DELHI, MAR 23

Global rise of multidrug-resistant tuberculosis threatens to derail decades of progress, warned *Lancet*, ahead of World TB day on Friday.

According to the report in *Lancet* respiratory medical journal, although tuberculosis control has been effective in some regions of the world due to small number of repurposed and new drugs that have become available recently to treat drug resistant TB, these gains are threatened by the increasing burden of multidrug-resistant (MDR) and extensively drug-resistant (XDR) tuberculosis, without accurate diagnostic tests to deliver individually targeted treatments, clear

prescription guidelines on appropriate use and improved control efforts to prevent transmission, optimal dosing and administration, and well-functioning health care systems.

According to the report, approximately 1 in 5 cases of TB are now resistant to at least one major anti-TB drug and approximately 5% of all cases of TB are classed as MDR (resistant to two essential first-line TB drugs, isoniazid and rifampicin) or XDR (also resistant to fluoroquinolones and second-line injectable drugs).

Globally, in 2015, there were an estimated 4,80,000 cases of MDR-TB, with approximately half of these cases being in India, China, and Russia. "But, migration and travel mean that highly drug-resistant TB strains

have emerged in almost every part of the world," said the *Lancet*.

TB kills more people every year than any other infectious disease, including AIDS, claims the report. At least 1.8 million people died of TB in 2015. India, Indonesia, China, Nigeria, Pakistan and South Africa have 60% of the total number of cases.

"Even when the drugs work, TB is difficult to cure and requires months of treatment with a cocktail of drugs," said lead author Keertan Dheda from the University of Cape Town.

MDR and XDR-TB are associated with high mortality and are a threat to healthcare workers, prohibitively expensive to treat, and are therefore a serious public health problem.

Tuberculosis (Hindustan:20170324)

http://epaper.livehindustan.com/story.aspx?id=1819550&boxid=72076684&ed_date=2017-03-24&ed_code=1&ed_page=13

टीबी एक आम, पर गंभीर समस्या है। देश में हर साल करीब पांच लाख लोग इस बीमारी के कारण जान से हाथ धो बैठते हैं। आंकड़ों की मानें तो बड़ी संख्या ऐसे मरीजों की भी है, जो उपचार के लिए आगे ही नहीं आते। आज वर्ल्ड टीबी डे पर विशेषज्ञों से की बातचीत को विस्तार से रख रही हैं नेहा

बी के संबंध में एक बात राहत देने वाली है। वह यह कि पहले के मुकाबले इसकी बचाव दर 90 से 95 फीसदी तक पहुंच गयी है। एमडीआर और एक्सडीआर टीबी के इलाज को सबसे बड़े सुधार के तौर पर देखा जा सकता है। हालांकि भारत में सरकारी स्तर पर इसे जड़ से खत्म करने के लिए व्यापक कार्यक्रम चलाए जा रहे हैं, बावजूद इसके इसे पूरी तरह नियंत्रित करना संभव नहीं हो सका है।

टीबी से समझ लें बीमारी को

यह एक संक्रामक रोग है, जो माइकोबैक्टीरियम ट्यूबरकुलोसिस बैक्टीरिया से होता है। यह संक्रमण संक्रमित व्यक्ति के खांसने व छींकने से वायु में फैले बैक्टीरिया के संपर्क में आने से होता है। मजबूत इम्यून सिस्टम के कारण यह बैक्टीरिया लंबे समय तक शरीर में निष्क्रिय बना रह सकता है।

यह संक्रमण मुख्य तौर पर फेफड़ों पर असर डालता है, पर रीढ़, किडनी, लिवर, मस्तिष्क और शरीर के अन्य अंगों पर भी इसका असर पड़ सकता है। टीबी दो तरह की होती है। लैटेंट टीबी में इसके बैक्टीरिया शरीर में निष्क्रिय स्थिति में रहते हैं। उनके लक्षण नजर नहीं आते। इसलिए इसे इनएक्टिव या निष्क्रिय टीबी कहा जाता है। यह संक्रामक नहीं होती। पर उपचार की कमी में यह एक्टिव टीबी में बदल सकती है। एक अनुमान के अनुसार दुनिया में करीब 2 अरब लोग निष्क्रिय टीबी से पीड़ित हैं।

दूसरी स्थिति एक्टिव टीबी की है, जो बीमार भी बनाती है और दूसरों को संक्रमित भी कर सकती है। टीबी के बैक्टीरिया के संपर्क में आने के कुछ ही सप्ताह बाद इसका असर दिखाई दे सकता है।

गंभीर स्थितियों में इसे ठीक होने में कई साल लग सकते हैं। कई लोगों में सर्जरी की नौबत भी आ जाती है। टीबी को पूरी तरह ठीक किया जा सकता है, बशर्ते प्रारंभिक स्तर पर इसकी सही जांच हो। तीन सप्ताह से अधिक खांसी व अन्य लक्षणों के प्रति लापरवाही न बरतते हुए सही डॉक्टर से संपर्क किया जाना जरूरी है। ड्रग सक्सेप्टेबिलिटी टेस्ट की बजाय जांच के अभाव में लोग दवाएं बदलते रहते हैं।

नई दवा बीडाक्विलिन ने फेफड़ों की टीबी के उपचार को पहले की अपेक्षा थोड़ा आसान बनाया है। इसे खास तौर पर एमडीआर टीबी के इलाज के लिए प्रयोग किया जाता है। डब्ल्यूएचओ की सबसे जरूरी दवाओं में भी इसे जगह दी गयी है।

इन बातों को समझना जरूरी

- अभी भी टीबी की बीमारी को एक कलंक की तरह माना जाता है। इस कारण लोग जांच के लिए पहल नहीं करते, जबकि सच यह है कि इलाज न कराए जाने पर एक व्यक्ति से दस नए मरीजों को इसके होने की आशंका बढ़ जाती है।
- इसके उपचार में एक बड़ी समस्या मरीज का पूरा कोर्स नहीं करना है। कुछ राहत मिलने के बाद वह कोर्स को बीच में ही छोड़ देते हैं या दवाओं में अनियमितता बरतते हैं, जिससे दवाओं का असर ढंग से नहीं होता।
- इलाज के दौरान स्वच्छता के कड़े नियमों का पालन करना जरूरी होता है। नियम के अनुसार मरीज को अपने बलगम को एक डिब्बे में जमा कर उसे गर्म पानी में

85% 15%

टीबी की बीमारी फेफड़ों से जुड़ी होती है।

मामलों में शरीर के अन्य अंग जैसे मस्तिष्क, आंत, गुर्दे, हड्डी और जोड़ भी ग्रसित हो सकते हैं।

- टीबी से होने वाली मौतों में ज्यादातर मामले कम व मध्यम आय वर्ग से होते हैं। पर्याप्त पोषण का अभाव भी एक वजह है।
- टीबी की बीमारी किसी खास वर्ग, नस्ल, धर्म या क्षेत्र की बीमारी नहीं है। प्रोडक्टिव उम्र यानी 14-55 वर्ष के लोग इसकी चपेट में अधिक आते हैं।

सरकार की ओर से उठाए गए कदम

- एमडीआर-टीबी और एक्सडीआर-टीबी जिन मरीजों को होती है, उन्हें सरकार की ओर से छह महीने का राशन दिया जाता है। रिसर्च सेंटर में सैपल देने वाले के लिए संबंधित डिस्पेंसरी तक आने-जाने का खर्च भी दिया जाता है।

विशेषज्ञ

- डॉ. के.पी.सिंह, चेस्ट स्पेशलिस्ट, श्यामा प्रसाद मुखर्जी चेस्ट क्लिनिक, दिल्ली
- डॉ. अनिल कुमावत, राजन बाबू इंस्टीट्यूट ऑफ पल्मोनेरी मेडिसिन एंड ट्यूबरकुलोसिस, दिल्ली

क्या कहते हैं आंकड़े

- 2015 में 1 करोड़ 4 लाख लोग टीबी का शिकार हुए। इनमें 18 लाख लोगों की मौत हुई।
- दुनियाभर में टीबी के 60% मरीज छह देशों से हैं।
- दस लाख बच्चे साल 2015 में टीबी की चपेट में आए।
- 4,80,000 लोग विश्व में मल्टीड्रग-रेजिस्टेंट (एमडीआर) टीबी की चपेट में आए।
- 2000 से 2015 के बीच 4 करोड़ 90 लाख लोगों की जिंदगी सही जांच व उपचार से बचाई जा सकी।
- 40 फीसदी मरीज उपचार में बरतते हैं अनियमितता।
- एक दिन में 15 से अधिक सिगरेट पीने से टीबी की चपेट में आने की आशंका चार गुणा बढ़ जाती है।
- 26 से 31% टीबी की चपेट में आने की आशंका अधिक होती है एचआईवी पीड़ितों में।

(स्रोत: विश्व स्वास्थ्य संगठन, साल 2015 तक)

उबालकर, एंटी बैक्टीरियल लोशन की कुछ बूंदें मिलाकर फलश कसा चाहिए। इतना न भी संभव हो तो भी इधर-उधर धूकने से बचना चाहिए।

टीबी को बचाव के चरण में ही रोका जा सकता है। ज्यादातर लोगों को किसी दूसरे के कारण ही टीबी होती है। पर यह जरूरी नहीं कि परिवार में किसी एक को टीबी हुई है तो दूसरा मात्र उसके संपर्क में आने से इसकी चपेट में आ जाएगा।

मरीजों के लिए अपने स्तर पर यह ध्यान रखना जरूरी है कि वे खांसते या छींकते वक्त मुंह पर कपड़ा रखें। बच्चों को जन्म के एक महीने के अंदर ही बीसीजी का टीका लगवाया जाए। टीबी का पता चलने पर उसका पूरा इलाज कराना जरूरी है।

डॉट्स (डायरेक्टली ऑब्जर्व्ड ट्रीटमेंट शॉर्ट कोर्स) से पूरा इलाज करवाएं। टीबी के उपचार में छह से नौ महीने तक दवाएं लेनी पड़ती हैं। कोर्स कितना लंबा होगा, यह

व्यक्ति की उम्र, सेहत आदि पर निर्भर करता है।

अधिक भीड़भाड़ व गंदगी वाले क्षेत्रों में टीबी के मामले ज्यादा सामने आते हैं। यह सिर्फ गरीबों को होने वाला रोग नहीं है, पर कुपोषण के शिकार लोगों में इसकी आशंका अधिक होती है। धूम्रपान व नशीली दवाओं लेने वालों में इसका जोखिम अधिक होता है। अस्वस्थ जीवनशैली के कारण बच्चे भी इसकी चपेट में आ रहे हैं।

रोकथाम



धूम्रपान व शराब के सेवन से बचें। अप्रत्यक्ष धूम्रपान से भी बचें।



नियमित व्यायाम करें। अच्छी रोग प्रतिरोधक क्षमता से होता है बचाव।



भीड़-भाड़ और गंदगी वाली जगह, मुंह पर रुमाल या मास्क लगाएं।



संतुलित भोजन करें। दालें, फल, हरी सब्जियां व फलियां खूब खाएं।



संक्रमित व्यक्ति के संपर्क से बचें।



साफ-सफाई का विशेष ध्यान रखें।

एमडीआर व एक्सडीआर टीबी

- टीबी का एक प्रकार मल्टीड्रग-रेजिस्टेंट टीबी है। यह टीबी ऐसे बैक्टीरिया से होती है, जिस पर टीबी के लिए दी जाने वाली फर्स्ट लाइन ड्रग्स का असर नहीं होता। एमडीआर-टीबी से कैंडिड लाइन ड्रग्स से टीक की जा सकती है।
- टीबी की दवाओं का गलत तरीके से इस्तेमाल, दवाओं की खराब गुणवत्ता और इलाज बीच में ही छोड़ देने के कारण यह टीबी होती है।
- कुछ मामलों में यह बहुत ज्यादा ड्रग रेजिस्टेंट होती है। एक्सटींसिवली ड्रग रेजिस्टेंट टीबी (एक्सडीआर टीबी) एमडीआर-टीबी का गंभीर रूप है, जिसमें सेकेंड लाइन दवाओं का भी असर नहीं होता। अक्सर इसके बाद लोगों के पास इलाज के दूसरे कोई विकल्प नहीं बचते।

फोटो : आइस्टॉक

Malnutrition

Rajasthan's move to provide therapeutic food helps tackle malnutrition (The Hindu:20170324)

<http://www.thehindu.com/todays-paper/tp-national/rajasthans-move-to-provide-therapeutic-food-helps-tackle-malnutrition/article17626206.ece>

In the pink Vishakha (3), who was earlier suffering from malnutrition, with her father Ramdayal Koli. Special Arrangement

As many as 9,117 malnourished children aged below 5 years in the State are now leading healthy lives

The State government's move to provide vitamin-enriched and ready-to-use therapeutic food to malnourished children has borne fruit, with a large number of youngsters now leading healthy lives.

The Community-based Management of Acute Malnutrition (CMAM)— a project undertaken by the government in December 2015— has helped in treating 9,117 children below 5 years who were suffering from severe acute malnutrition (SAM). UNICEF, Global Alliance for Improved Nutrition, and Action Against Hunger are the project partners.

Nutrition kit

Karauli in eastern Rajasthan is among the 13 districts where the initiative was launched in its first phase. Here, doctors at the primary health centres and accredited social health activists (ASHA) have been working to identify and provide the nutrition kit to children. The kit usually consists of an energy-dense nutrition supplement, locally known as Poshan Amrit , antibiotics and de-worming tablets.

Three-and-a-half-year-old Vishakha, a resident of Fatehpur village situated 18 km away from Karauli, survived after the intervention of village ASHA Bebi Devi. A year ago, she was suffering from diarrhoea and fever and was not eating anything for several days at a stretch. Vishakha's father Ramdayal Koli, a construction labourer, told The Hindu that the girl was first admitted to the Malnutrition Treatment Centre in Karauli for 15 days, after which Ms. Devi gave the kit to the family.

Survivor's stories

For the next two months, the activists visited Mr. Koli's home every day to review the girl's health condition. Vishakha has now recovered and gained weight. She also regularly attends the Anganwadi centre in the village.

Similarly, four-year-old Radhika and three-year-old Kanha in Fatehpur have overcome the risk of mortality after regularly consuming the ready-to-use food. Karauli Chief Medical and Health Officer, Ramroop Meena, said the CMAM had turned out to be “very successful” in the district and the Todabhim block had been recently felicitated for its achievements.

Medical Technology (The Asian Age:20170324)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=7717186>

Smartphones to protect you with your eyes

The iris scanner allows you to unlock your phone by looking at the front camera

AGE CORRESPONDENT

The advent of smartphones within the country has brought about a paradigm change in the lifestyles of Indian consumers. But with the rise in online transactions, mobile-based banking, and the amount of personal data stored on mobile devices, there have also emerged serious questions about the security aspect. It is to address these qualms and to make mobile usage more secure for its end-users that very few brands have integrated iris scanners in their smartphones. The IRIS scanner allows you to unlock the smartphone by just looking at it. Here are the top-notch smartphones with iris scanner that you can buy within different price ranges.

itel it1520: itel Mobile from Transsion Holdings

Conglomerate, has integrated iris scanner in its flagship smartphone, it1520. Available at a price point of ₹8,490, itel's it1520 is currently one of the only few smartphone models in India to come equipped with the high-end retinal scanning technology. In addition to iris scanner, itel it1520 comes loaded with 13MP front and back cameras, Android 6.0, 1.3GHz processor, 2GB RAM, and 16GB internal storage.

TCL 560: Chinese Multinational TCL Corporation launched its first smartphone in India — TCL 560. The budget smartphone is priced at ₹7,999. TCL 560 features a 5.5-inch HD screen with a pixel resolution of 720x1280p. It packs an 8MP rear camera and a 5MP front camera with flash. It comes with an iris scanner, which



unlocks the smartphone using eyes. TCL 560 is powered by a 32-bit quad-core processor with 2GB RAM and 16GB storage. The battery is 2,500mAh.

LYF Earth 2: Reliance Digital's LYF Earth 2 comes with a retina scanner apart from supporting VoLTE and a fingerprint scanner. LYF Earth 2 flaunts a 5-inch full HD (1920x1080 pixels) IPS LCD with 445ppi, 2.5D curved glass and Gorilla Glass protection. With Qualcomm's Snapdragon 615 octa-core processor paired with Adreno 405 GPU and 3GB of RAM. Also on offer is 32GB internal storage, which is further expandable up to 64GB using a microSD

card. The Earth 2 comes with a 13-megapixel front & back camera with LED flash. The rear camera also features laser autofocus, 4x digital zoom, HRD, panorama, and 1080p video recording capabilities. LYF Earth 2 is priced at ₹20,999.

Microsoft Lumia 950: The Lumia 950 or Talkman sports a 5.2-inch display with 2560 x 1440 pixels of resolution. Under the hood, one can expect a hexa-core Snapdragon 808 processor coupled with 3GB RAM, 20-megapixel rear snapper, 5-megapixel front-facing camera, 32GB storage and a 3,000mAh battery. The Lumia 950 is priced at ₹26,700.

Aging

Anti-aging peptide recovers fur growth, kidney health in mice (Medical News Today:20170324)

<http://www.medicalnewstoday.com/articles/316456.php>

An anti-aging therapy could be one step closer; in a new study, researchers reveal how a peptide led to the destruction of cells that play a role in aging, reversing fur loss, kidney damage, and frailty in mice.

The fast-aging mouse on the left shows fur regrowth as a result of peptide treatment. The mouse on the right was untreated.

The research describes how the peptide stops levels of a protein called FOXO4 from increasing in senescent cells, which are cells that lose the ability to replicate and destroy themselves, but which remain metabolically active.

Senescent cells accumulate with age, and studies have shown that they can contribute to the aging process by causing damage to neighboring cells and impairing tissue function.

Previous research has shown that in senescent cells, levels of FOXO4 rise to prevent another protein called p53 from prompting the cells' self-destruction.

By blocking FOXO4 with the peptide, the research team has been able to restore programmed cell death, or apoptosis, in senescent cells.

"Only in senescent cells does this peptide cause cell death," says senior author Peter de Keizer, a researcher of aging at Erasmus University Medical Center in the Netherlands.

"FOXO4 is barely expressed in non-senescent cells, so that makes the peptide interesting, as the FOXO4-p53 interaction is especially relevant to those cells, but not normal cells."

On administering the peptide to fast-aging mice in regular doses, the researchers were able to reverse age-related conditions, such as fur loss and poor kidney health.

The findings were recently published in the journal Cell.

Mice demonstrated fur regrowth within 10 days of treatment

For their study, the researchers tested the peptide on older mice that had aged naturally and mice that had been genetically modified to age rapidly.

Both groups of mice developed characteristics and health problems commonly associated with aging, such as loss of fur, a decline in kidney health, and frailty.

Some of the rodents in each group were given infusions of the peptide three times a week for 10 months, while the remaining mice were monitored as controls.

Both the fast-aging and naturally aged mice saw improvements with peptide treatment, with no apparent side effects.

Within 10 days, the fast-aging mice began to experience fur regrowth. After 3 weeks, the naturally aged mice began to see improvements in fitness, compared with mice that did not receive the peptide.

Additionally, both the fast-aging and naturally aged mice started to demonstrate improvements in kidney function from 1 month after peptide treatment.

The team notes that the effects of peptide treatment were so strong in fast-aging mice that doses needed to be reduced over the study period.

The future of senescent cell therapy

The researchers say that their findings support previous research showing that targeting senescent cells can help to reverse aging and increase lifespan, though much more research is warranted.

"The common thread I see for the future of anti-aging research is that there are three fronts in which we can improve: the prevention of cellular damage and senescence, safe therapeutic removal of senescent cells, to stimulate stem cells - no matter the strategy - to improve tissue regeneration once senescence is removed," says de Keizer.

He and his colleagues now plan to conduct a clinical trial to assess the safety of the peptide in humans.

Cancer

Surviving cancer may increase risk of birth complications (Medical News Today:20170324)

<http://www.medicalnewstoday.com/articles/316528.php>

A recent study, published in JAMA Oncology, finds a link between surviving cancer and health risks for the survivors' future newborns. The study provides new information about this little-studied interaction.

New research examines the impact of living through cancer on survivors' future pregnancies.

As treatment for cancer steadily improves, the number of cancer survivors increases.

There are already an estimated 15.5 million cancer survivors in the United States, and this number is predicted to rise to 20 million by 2026.

One of the major concerns of women who survive cancer is their ability to have children later in life. Certain chemotherapy treatments and radiation therapy can affect fertility levels. For younger cancer survivors, for whom egg collection is not an option, this is particularly concerning.

Despite these worries, little research has been dedicated to looking at the impact of cancer treatment on the children of women treated for cancer during their childbearing years.

Cancer survivors and future pregnancies

A team of researchers set out to investigate this question. The study's lead author was Hazel B. Nichols, Ph.D., assistant professor in the University of North Carolina Gillings School of Global Public Health in Chapel Hill.

To examine any interactions between cancer treatment and later pregnancies, the researchers delved into birth certificate data from North Carolina. They concentrated on patients who were diagnosed with cancer while aged between 15 and 39, from 2000 to 2013. They looked at the health outcomes of the firstborn children of these mothers. In all, 2,500 babies born from cancer survivors were assessed.

Once the data had been analyzed, the team found that children born to cancer survivors were more likely to be born early - before the 37-week mark - than women who had not had cancer (13 percent compared with 9 percent).

Although this difference is relatively small, because babies born early are more likely to have complications, it is certainly worth being aware of. However, Nichols is quick to note that not all babies born early will face health problems:

"It's a risk factor; it doesn't mean that someone who is born preterm is going to develop future health problems, but children who don't spend as long in utero can have a higher incidence of breathing problems or infections. This is something for women and their providers to be aware of when a woman is reviewing her prenatal care, or talking about her medical history with her provider."

The study also showed that babies of cancer survivors were more likely to have a lower birth weight and be born by cesarean section.

Breaking down the data

When the researchers broke the data down into specific cancer types, they found that survivors of breast cancer had almost twice the risk of preterm birth than women who had not had cancer.

Similarly, there was a 60 percent higher risk of preterm birth in women who had survived Hodgkin lymphoma, roughly double the risk with non-Hodgkin lymphoma, and an almost threefold risk increase with gynecologic cancers.

Preterm birth and low birth weight risk were highest in women who were diagnosed with cancer while pregnant. Potentially, this might be because they delivered early so that they could begin treatment as soon as possible. However, this may not be the only factor at work; the analysis also showed that women diagnosed with cancer before the start of pregnancy had a similar increase in risk.

When the data were split into treatment types, they found that women who underwent chemotherapy were more likely to have preterm births and, to a lesser extent, cesarean sections. This is an area that Nichols would like to investigate further. Researchers would like to be able to break down chemotherapy in a more detailed way, she says:

"Chemotherapy is a very broad category, and the agents have very different effects on the body. In the future, we'd like to get more detailed information on the types of drugs that were involved in treatment."

Although the findings are concerning, there are also positives to be taken from the data, as Nichols says: "One of the things that's exciting about this work is we identified thousands of women who went on to have a child after they were diagnosed and treated for cancer."

The findings bring hope, but they also bring home the importance of disseminating the right information at the start of cancer treatment and beyond. She continues:

"We know that cancer treatment can have an impact on fertility, and it's only after puberty that some of the options exist to either freeze eggs or freeze embryos, or take other steps to protect fertility. So this is a time period when it's important to counsel women on what their reproductive risks are for cancer therapy, or what they can expect in the future."

Lung Cancer

Lung cancer in pictures: What does it look like?

<http://www.medicalnewstoday.com/articles/316538.php>

Lung cancer can be a worrying diagnosis. This type of cancer is aggressive and can quickly spread to other organs, such as the pancreas and liver.

More than half of people with lung cancer survive if the disease is detected while it's still localized in the lungs. Lung imaging scans can reveal the location, severity, and even the type of lung cancer, offering an accurate outlook and proper treatment.

Contents of this article:

What do various types of lung cancer look like?

Tests for lung cancer

Symptoms

Treatment and outlook

What do various types of lung cancer look like?

Diagnosing lung cancer is challenging, even for radiologists and oncologists. Patients concerned about their diagnosis should talk to their doctor, since comparing images online can give incorrect information.

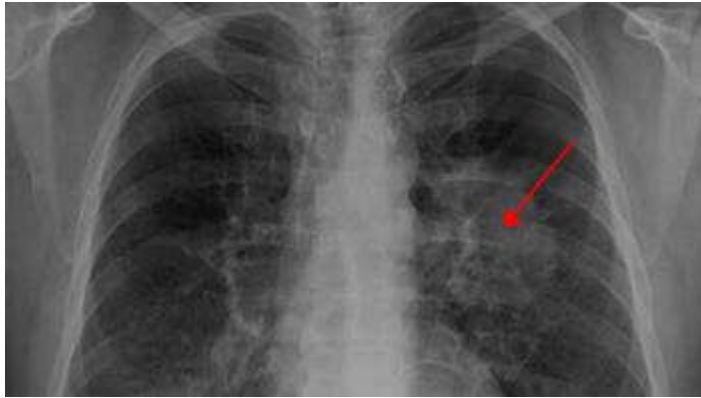
x-ray image of lung cancer tumor

A chest x-ray showing a lung cancer tumor.

Here are some characteristics of various lung cancer types:

Small cell lung cancer

Small cell lung cancer, also called oat cell cancer, accounts for about 15 percent of lung cancer cases. This type of cancer tends to spread to other areas of the body more quickly than other types and grows rapidly.



In most cases, the tumors of small cell lung cancer are located toward the center of the lungs. The tumors extend out from the lobar bronchi, divisions of the lung's main airways. On a chest X-ray, small cell lung cancer may resemble white masses situated toward the center of the lungs.

Non-small cell lung cancer

There are several types of non-small cell lung cancers; each with their own characteristic features on lung scans. Non-small cell lung cancers can be challenging to distinguish from one another, particularly on a chest X-ray.

Adenocarcinoma

Adenocarcinomas account for about about 40 percent of lung cancer cases. This non-small cell lung cancer grows slowly, and is located in the outer portions of the lungs. On a lung scan, adenocarcinomas can resemble small cell lung cancer, but are situated on the outer portions of the lungs, rather than near the center.

Adenocarcinomas look like round nodules in the lungs, and first appear in cells that produce mucus. It's important to work out what type of adenocarcinoma it is as this can affect treatment and outlook.

Though smoking is the primary risk factor for adenocarcinoma, it is also the most frequent form of lung cancer among nonsmokers.

Squamous cell (epidermoid) carcinoma

Between 30-35 percent of all lung cancers are squamous cell carcinomas. This type of cancer originates in the cells that line the lung's airways. Tumors are usually found near one of the lung's main airways. As tumors grow, they may extend into the wall of the chest.

Large cell (undifferentiated) carcinoma

Large cell (undifferentiated) carcinoma accounts for 10-15 percent of all lung cancer cases. It can appear anywhere in the lungs. Because it grows and spreads quickly, it may extend outside of the lung.

Large cell carcinoma is one of the most difficult forms of lung cancer to treat.

Mesothelioma

A layer of cells called the mesothelium surrounds the lungs, heart, abdomen, and other organs. The pleura, a type of mesothelium, surround the lungs. Pleural mesothelioma, usually just called mesothelioma, is cancer of this layer of tissue.

Mesothelioma does not tend to stand out on chest X-rays. There may be a volume reduction on one side of the chest, or a large opaque growth covering a large portion of the lung.

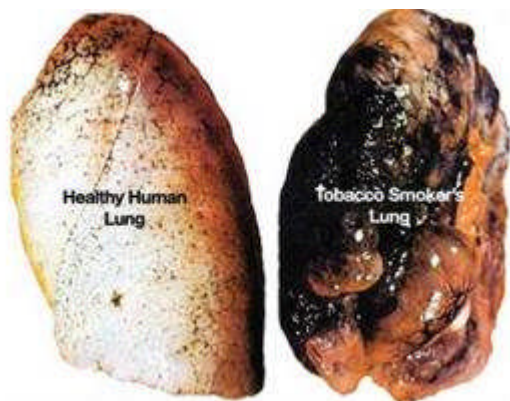
Metastatic cancers

Metastasis is the process through which cancer spreads from one (primary) area of the body to another (secondary) area. It may spread through the tissue by traveling through the blood to a distant region of the body. It may also spread to surrounding areas as a tumor grows.

Lung cancer that is metastatic means that it has spread to another region of the body. Its hallmark is that there will be signs of cancer in another organ. For example, cancer in the lungs and the liver suggests metastatic lung cancer.

Cancers from other areas of the body can sometimes spread to the lungs. These cancers are not technically lung cancer, but can affect lung functioning. They are visible on lung scans, but their specific presentation depends on the type of cancer, the degree of metastasis, and similar factors.

Tests for lung cancer healthy lung compared to smokers lung



A large percentage of lung cancer patients may have smoked in their lifetime.

Lung cancer is difficult to detect, particularly since the early stages often produce no symptoms. For many people, a chest X-ray is the first diagnostic option. However, about half of adults who get a chest X-ray have at least one growth while less than 5 percent of growths are cancerous.

Depending upon symptoms and risk factors, a doctor may recommend monitoring the growth over time, or performing other tests to assess if it is cancerous.

MRIs and PET scans can provide more details about growths in the lungs. To confirm a lung cancer diagnosis, the doctor will need to perform a lung biopsy. During a biopsy, a doctor

takes a small sample of a lung growth before examining it under a microscope for cancer cells.

Who gets lung cancer?

Although anyone can develop lung cancer, someone who smokes presents a major risk factor for all forms of lung cancer except for mesothelioma. Around 80-90 percent of lung cancer patients are current or former smokers. People with mesothelioma typically develop symptoms due to asbestos exposure. Secondhand smoke exposure is also a risk factor for lung cancer.

Some other risk factors for lung cancer include:

a family history of lung cancer

previous radiation therapy to the chest

exposure to radon gas

exposure to pollution, asbestos, diesel, and some other chemicals

diet - some research suggests that smokers who take beta carotene supplements are at an increased risk

Symptoms

In the early stages of lung cancer, when the cancer is most treatable, most patients experience no symptoms. For this reason, doctors may recommend regular chest X-rays for people at a heightened risk of lung cancer.

man coughs

Symptoms of lung cancer may include breathlessness, wheezing, and coughing.

Once symptoms appear, they include:

wheezing and coughing

long-term congestion

breathlessness

coughing up blood

dizziness and fatigue

recurring chest and respiratory infections

As lung cancer grows and spreads, symptoms tend to become more serious. Metastatic lung cancer can trigger a wide range of symptoms depending on the organ or bodily system affected.

Treatment and outlook

The outlook for lung cancer depends on the stage of cancer, the age and health of the patient, and how early cancer is detected. Five-year survival rates are around 55 percent when cancer has not moved beyond the lungs, but just 16 percent of cancers are detected this early.

Treatment options include:

surgery to remove tumors

drugs to slow tumor growth

immunotherapy to support the immune system

chemotherapy

radiation therapy

Lifestyle remedies, such as diet, exercise, and stopping smoking, may also prolong life and reduce the severity of symptoms.

Allergy

Oral allergy syndrome: Foods, symptoms, and treatments (Medical News Today:20170324)

<http://www.medicalnewstoday.com/articles/316521.php>

Oral allergy syndrome is an allergic reaction that specifically affects the mouth, lips, tongue, and throat. It is related to allergic rhinitis, otherwise known as hay fever.

In oral allergy syndrome, the body cross-reacts to certain proteins in specific foods. These proteins are similar to the proteins found in the pollens that are associated with hay fever and seasonal allergies.

As these foods are typically available throughout the year, oral allergy syndrome is not seasonal.

Contents of this article:

Causes

Symptoms

Diagnosis

Treatment and lifestyle tips

Causes Many food allergies are, in fact, cross-reactions to allergies caused by pollen.

Proteins are found in all organic matter. The immune system identifies specific proteins in order to target bacteria, viruses, and other unwanted germs. However, it sometimes identifies everyday proteins, such as pollens, as harmful as well.

After being eaten or breathed in, these proteins are available in large numbers and the immune system identifies them as abnormal. The body reacts with a significant immune response, which leads to swelling, various other allergy symptoms, and discomfort.

For many, the key signs of oral allergy syndrome are swelling and itchiness of the lips, mouth, tongue, and throat immediately after eating certain fruits and vegetables, especially when raw.

Experts estimate that more than 60 percent of all food allergies are actually cross-reactions to pollen allergies. The most common cause of allergic rhinitis in the United States is birch pollen. However, multiple trees, grasses, and weeds can cause it as well.

Typically, oral allergy syndrome can be traced back to an allergy to the following:

Trees

birch

alder

Japanese cedar

plane

Grasses

Timothy

orchard grass

Weeds

wormwood

ragweed

mugwort

Parietaria species

Common foods that cause oral allergy syndrome

As there is a wide range of potential causes of allergic rhinitis, there is also an extremely varied range of fruits and vegetables that cause oral allergy syndrome.

Similarly, different fruits and vegetables may cause a different response depending on the type of pollen the immune system cross-reacts to. According to a paper in the Journal of Allergy, typical foods that may cause a reaction include:

Nuts such as peanuts and walnuts are common allergens and can cause mild to severe symptoms.

Fruits

Prunus genus: cherries, nectarines, peaches, plums, apricots

apples and pears

mangoes

bananas

figs

avocados

strawberries

raspberries

kiwis

watermelons

melons

oranges

Vegetables

Apiaceae family: celery, carrots, parsley, parsnips, cilantro, cumin, dill, chervil, and fennel

Nightshades: tomatoes, potatoes, and peppers

Cucurbitaceae family: pumpkins, butternut squashes, zucchini, cucumbers

lettuce

corn

artichokes

peas

Others

hazelnuts and walnuts

peanuts

chickpeas

wheat

soy

almonds

lentils

sunflower seeds

honey

Symptoms

Symptoms of oral allergy syndrome only occur after eating specific foods. The symptoms vary significantly, and can peak at different stages of life.

Mild symptoms include:

itching of the throat, mouth, lips, or tongue

swelling, particularly of the lips and tongue

More severe symptoms include:

swelling of the throat

nausea and vomiting

Additional symptoms can include hives and asthma. Typically, hives occur when the food is being peeled, chopped, or grated. Asthma occurs when the food is being blended or otherwise vaporized, such as during stir-frying.

Those who experience more severe symptoms should see their doctor.

Diagnosis

Diagnosing oral allergy syndrome often involves several steps. Typically, these include clinical and laboratory methods.

Clinical

Clinical methods are the most common. Diagnosis requires confirmation of allergic rhinitis along with itching and tingling that develops after eating fresh fruit or vegetables. In many cases, an accurate patient history shows a link between eating a specific type of food and the start of tingling or swelling.

In other cases, the doctor may propose an elimination diet. The person avoids specific food groups that may cause oral allergy syndrome for a set amount of time and records whether it makes a difference.

Laboratory[a doctor does an allergy test on a patient's arm]

A dermatologist can diagnose allergies by using a prick test and measuring the level of reaction.

Laboratory tests typically involve skin testing via a prick test, a scratch test, or a blood test. For skin testing, a dermatologist marks out a grid on the back or the forearm and applies extracts of pollens, fruits, or vegetables. Any marks that develop on the skin are measured after 15 minutes to determine the level of reaction.

If prick tests with the pollen are positive but the food itself fails to provoke a reaction, the person may be asked to eat a certain amount of the suspected food. A reaction immediately after eating this food will confirm the presence of oral allergy syndrome.

In some cases, blood tests might be used to diagnose the condition. First, the doctor performs a test to work out the total level of antibodies in the blood. Another test then checks for specific antibodies. Blood tests are often used when skin tests are not available or practical.

Treatment and lifestyle tips

There are no standard treatments for oral allergy syndrome other than avoiding specific foods that are associated with allergy symptoms. Careful management of diet can ensure that people with the syndrome can lead otherwise normal lives. People with oral allergy syndrome should explain the condition to others to help them understand what foods are off-limits.

In the event of an allergic reaction, initial treatment generally involves rinsing the mouth with water and then resting. Hot drinks can also destroy some proteins, and so inactivate them.

Antihistamines typically take 1-2 hours to work, while the effects of oral allergy syndrome typically start to wear off after about 30 minutes. However, an antihistamine can prevent effects from lingering and should be taken as soon as the reaction occurs.

In some cases, it may be possible to make the immune system less sensitive to the allergen through immunotherapy or allergy shots. This is especially useful when a single allergen is involved. Under-the-skin delivery of immune therapy is currently being studied as a treatment option for oral allergy syndrome.

Does cooking foods help with oral allergy syndrome?

In some cases, cooking foods can destroy the proteins that cause oral allergy syndrome. However, this depends on the foods that trigger the allergies.

In general, nuts and spices are exceptions to the cooking rule. Nuts contain multiple allergens and not all of them are destroyed by heat. The same applies to celery. Allergens in strawberries are also resistant to heat.

Pasteurized fruit juices are generally okay as they have been heat-treated. However, some smoothies may contain raw, unpasteurized juices or purees. These are best avoided if any of the ingredients are triggers.

However, most foods are made sufficiently safe by cooking. Examples include tomatoes, apples, potatoes, pears, and most soft fruits.

Lifestyle tips

In many cases, avoiding the food completely is the only sure way to prevent the symptoms of oral allergy syndrome. However, there are some methods that people may wish to try so they can enjoy their favorite foods.

Lightly microwaving fruits - particularly apples - for about 1 minute and then chilling them immediately may reduce the effects of oral allergy syndrome to a manageable level. This process can remove the main proteins that cause reactions.

In addition, there is usually a large amount of these proteins in the skin, so peeling fruits before consuming them may reduce reactions significantly.

Wearing gloves when peeling fruits can reduce the symptoms of hives. Not stir-frying vegetables can also reduce the risk of asthma.

People with oral allergy syndrome often find that their symptoms worsen during pollen season, so they may wish to avoid trigger foods at the peak of that season.

In addition, managing seasonal allergic rhinitis correctly is key to coping with oral allergy syndrome symptoms. This is normally done with antihistamines and a steroid nasal spray 2 weeks before the season is due to start, and then regular use throughout.

http://epaper.jagran.com/ePaperArticle/24-mar-2017-edition-National-page_14-274-12847-262.html

वैज्ञानिकों ने अफ्रीकी देश नाइजर में नए टीके का किया परीक्षण

बच्चों की जान बचाएगा सस्ता टीका

वैज्ञानिकों ने जानलेवा रोटावायरस के नए टीके का सफल परीक्षण किया है। यह टीका सस्ता है और इसे फ्रीजर में रखने की जरूरत भी नहीं होती। बड़ी तादाद में बच्चे रोटावायरस का शिकार होते हैं। सस्ते टीके की उपलब्धता लाखों बच्चों की जान बचा सकती है।

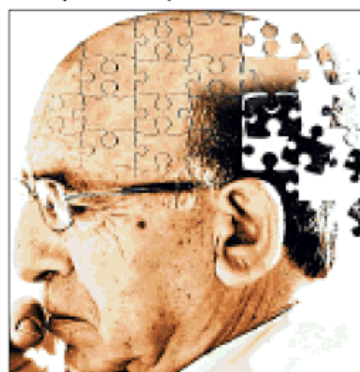


शोधकर्ताओं ने बताया कि रोटावायरस के कारण बच्चों को दस्त की शिकायत हो जाती है। लगातार दस्त के कारण होने वाली परेशानियों और शरीर में पानी की कमी से दुनिया भर में हर साल लाखों बच्चों की मौत हो जाती है। रोटावायरस के दो टीके पहले से मौजूद हैं, लेकिन इन्हें हमेशा फ्रीजर में रखना पड़ता है। इनकी लागत भी ज्यादा है। वैज्ञानिकों ने अफ्रीकी देश नाइजर में नए टीके का परीक्षण किया है। रोटावायरस के दुष्प्रभावों को रोकने में इसे 67 फीसद तक सफल पाया गया है।

-एएफपी

असंतुष्ट अम्ल से है अल्जाइमर का संबंध

अल्जाइमर को समझने की दिशा में वैज्ञानिकों ने एक और कदम बढ़ा दिया है। वैज्ञानिकों का अनुमान है कि दिमाग के अंदर उपस्थित विभिन्न असंतुष्ट वसा अम्लों (अनसैचुरेटेड फैटी एसिड) से अल्जाइमर का सीधा संबंध है। अल्जाइमर एक मानसिक बीमारी है, जिसमें व्यक्ति की याददाश्त खो जाती है और वह विचारों में साम्य नहीं बना पाता। अभी तक माना जाता रहा है कि इन दिमागी परेशानियों के लिए दो बड़े अणु ताओ और एमलॉयड प्रोटीन जिम्मेदार हैं। बीमारी के प्रभावी होने से करीब 20 साल पहले से ही दिमाग में इन अणुओं का जमाव होने लगता है। ताजा शोध में इससे आगे की कड़ी मिली है। वैज्ञानिकों ने पाया कि मरीजों के मस्तिष्क में ओमेगा-3 और ओमेगा-6 फैटी एसिड का मेटाबोलिज्म स्वस्थ लोगों की तुलना में घट जाता है। इस शोध से अल्जाइमर के इलाज की दिशा में भी नए रास्ते खोजने की उम्मीद बढ़ी है।



आइएनएस

http://epaper.livehindustan.com/story.aspx?id=1819567&boxid=94169310&ed_date=2017-03-24&ed_code=1&ed_page=22

डिब्बाबंद जूस बच्चों के लिए ठीक नहीं



एडिजबरा | एजेंसी

फलों में प्राकृतिक रूप से मिठास होती है, इसलिए उसमें अलग से शक्कर या मीठास बढ़ाने वाली चीजें मिलाने की जरूरत नहीं होती है। आहार विशेषज्ञों का कहना है कि बाजार में बिकने वाले डिब्बाबंद जूस में अतिरिक्त मिठास होती है, जो बच्चों में शक्कर की मात्रा बढ़ाती है। इस उम्र में यह सही नहीं है।

स्कॉटलैंड में हुए शोध के नतीजों के आधार पर वहां की सरकारी एजेंसियों ने स्कूलों में बच्चों को दोपहर के भोजन के साथ सिर्फ पानी और दूध देने की बात कही है। उनका कहना है कि जूस में मौजूद अतिरिक्त शक्कर बच्चों के दांतों के साथ ही संपूर्ण स्वास्थ्य के लिए सही नहीं है। उन्हें अतिरिक्त शक्कर वाली चीजें देना स्वस्थ विकास को बाधित कर सकता है।

जूस की बजाय फल खाएं

भारत में कुछ आहार विशेषज्ञों का कहना है कि डिब्बाबंद जूस पीने से बेहतर है कि सीधे फलों का सेवन किया जाए। इससे लोगों को फलों में मौजूद पोषक तत्व तो मिलेंगे ही, फाइबर भी मिलेगा।

पेट की समस्या

नाशपाती, स्वीट चेरी और सेब जैसे कुछ फलों में सॉर्बिटॉल जैसी शुगर मौजूद होती है, जो आसानी से पचती नहीं। इससे गैस, दस्त, पेट में उथल-पुथल और डायरिया होने की आशंका रहती है।

पोषकता नहीं रहती

डिब्बाबंद जूस बनाने के लिए फलों के रस को पहले उबाला जाता है ताकि बैक्टीरिया खत्म किए जाएं। इससे विटामिन समेत अन्य पोषक तत्व खत्म हो जाते हैं। इससे शरीर को फाइबर भी नहीं मिल पाता है।

डायबिटीज में नुकसानदायक

डायबिटीज के रोगियों को डिब्बाबंद जूस नहीं पीना चाहिए। ये जूस रिफाइंड शुगर से बने होते हैं, जो डायबिटीज में हानिकारक है। शुगर फ्री की सूचना लगी हो तब भी डायबिटीज के मरीजों को इसके सेवन से बचना चाहिए।