Skin condition

Study finds skin condition behind liver damage in diabetics in India

Study finds skin condition behind liver damage in diabetics in India (The Tribune: 20240319)


A skin condition characterised by thickening, dark pigmentation, and velvety appearance of the skin at the nape of the neck among people with Type 2 diabetes may indicate a higher risk of liver cell damage (fibrosis), said researchers from Fortis C-DOC hospital for Diabetes and Allied Sciences and AIIMS on Monday.

The easily identified skin condition, called Acanthosis Nigricans, is usually found in individuals with insulin resistance and is typically observed at the nape of the neck. However, it can also manifest in other areas such as the axillae, elbows, knees, and groin, said the researchers in a statement.

The study, published in the journal Primary Care Diabetes showed that “Acanthosis Nigricans has the potential to be used as an easy-to-identify clinical marker for risk of hepatic fat and fibrosis in Asian Indians with type 2 diabetes, allowing for early detection and management strategies”.

The findings are important because of the significantly large number of people living in India with insulin resistance and early onset of Type 2 diabetes.

“In this case-control study involving patients with Type 2 diabetes, we made important observations indicating an independent association between the presence of Acanthosis Nigricans and hepatic steatosis and fibrosis (adverse markers of liver damage),” said Dr Anoop Misra, Padma Shri, co-author of the study and Executive Chairman &amp; Director, Diabetes and Endocrinology, Fortis C-Doc Hospital, in a statement.

For the study, the team examined 300 people with Type 2 diabetes and with Acanthosis Nigricans, and those without the skin condition.

They found that the skin issue is more common in women, overweight/obese individuals, and those with a family history of type 2 diabetes.

The correlation with severity of neck Acanthosis Nigricans was found to be “strongest, with fasting insulin and glucose levels, and insulin resistance as compared to the disease at other sites, that is, axilla, and knuckles.”

COPD, asthma

COPD, asthma to drive India’s critical care ventilator market: Report (The Tribune: 20240319)


Urbanisation and industrial expansion have worsened air pollution in India, leading to more respiratory diseases like COPD.

Increasing cases of chronic respiratory diseases such as Chronic Obstructive Pulmonary Disease (COPD) and asthma in India are expected to push the growth of critical care ventilator services market in the country at a compound annual growth rate (CAGR) of 4 per cent by 2033, according to a report on Monday.

The report by GlobalData, a data and analytics company reveals that India accounted for about 21 per cent of Asia-Pacific’s critical care ventilator market in 2023.

“Urbanisation and industrial expansion have worsened air pollution in India, leading to more respiratory diseases like COPD,” said Kanchan Chauhan, medical devices analyst at GlobalData.
She noted that the advent of Covid stressed the critical need for ventilators in treating patients with severe respiratory issues.

Additionally, India is seeing an increase in critical care admissions with the rise in ageing population and evolving disease trends.

“Patients with severe respiratory illnesses often require intensive care and mechanical ventilation. This surge in demand has driven up the need for critical care services and equipment, including ventilators, in hospitals across the country,” Chauhan said.

“In conclusion, India’s healthcare sector is undergoing a remarkable evolution driven by technological progress, particularly evident in critical care ventilators. The nation’s proactive response to the rising prevalence of respiratory diseases and an ageing population underscores its commitment to innovation, safety, and improving public health outcomes,” Chauhan added.

**Non-communicable diseases**

**Study flags dietary trends that enhance risk of non-communicable diseases**
*(The Tribune: 20240319)*

Men exhibit higher nutrient intake compared to women


A recent study has flagged disturbing dietary trends of excessive salt consumption and inadequate potassium intake, which increase the risk of development of hypertension, cardiovascular and chronic kidney diseases.

According to the study, conducted by researchers at The George Institute for Global Health India in collaboration with the Postgraduate Institute of Medical Education and Research in Chandigarh, protein consumption was below the recommended dietary allowance and men exhibited higher nutrient intake compared to women.

The comprehensive study on the dietary habits of north Indian population was conducted focusing on the intake of sodium, potassium, phosphorus, and protein, that have an impact on the risk of development of non-communicable diseases.

The study, published in the journal Frontiers in Nutrition, involved more than 400 adult participants encompassing healthy adults and those with early-stage chronic kidney disease.
It utilised 24-hour urinary excretion analysis to assess nutrient intake.

This method is considered more accurate than dietary recall because it is less prone to errors related to memory or estimation of portion sizes. Care was taken to ensure the urine samples’ reliability for analysis.

“Meticulous analysis revealed some alarming trends—excessive salt consumption surpassing recommended levels, inadequate potassium intake (both of which increase the risk of development of hypertension, cardiovascular disease, and chronic kidney disease), and protein consumption below the recommended dietary allowance,” professor Vivekanand Jha, Executive Director and the lead study author, said.

A poor nutritious diet is a major risk element for Non-Communicable Diseases (NCD), which are of considerable public health concern. In India, people eat different foods, so it is important to know exactly what nutrients they are getting to help prevent and manage these diseases, Jha said.

The high salt and low potassium intake point to the need to develop interventions targeted to individuals and societies, Jha stated.

These findings highlight the fact that while the dietary intake of several nutrients is necessary for good cardiovascular and kidney health, their consumption is suboptimal. It also highlighted the need for personalized changes in diet to reduce the risks of common NCDs.

The study also emphasises the importance of accurate dietary assessments to provide personalised advice and develop effective policies.

Emphasising the urgency for public awareness campaigns, individual counselling, and food policy reforms, Jha added, “The study shows that it is important to have dietary guidelines that are specific to local area. We need to take action to fix imbalances in nutrients and encourage people to eat more healthily by increasing diversity.”

To lower the risks of NCDs, researchers suggested using multi-faceted strategies, including providing better information on food labels so people can make healthier choices, reducing salt in processed foods, and encouraging people to eat more fruits and vegetables rich in potassium.

This study shows how to take proactive steps to fight NCDs, fostering a healthier future for North Indian communities.

This project was supported by funding from the Department of Biotechnology and India Science, and Engineering Research Board in Delhi; and the Department of Biotechnology-Welcome Trust, India Alliance.
Ebola

Scientists find potential new drug target to prevent Ebola (The Tribune: 20240319)


Ebola is a type of viral haemorrhagic fever caused by several species of viruses from the genus Ebolavirus.

Scientists have found a new way in which Ebola reproduces in the human body, identifying a potential target for drugs to prevent the viral disease.

The study also sheds light on how the deadly virus that affects people mostly in sub-Saharan Africa interacts with a human protein called ubiquitin.

“We used a combination of experimental and computational (using computers) methods to investigate the interaction between the Ebola virus VP35 protein and ubiquitin chains,” said study co-author Rafael Najmanovich, a professor at the University of Montreal in Canada.

“Advanced computational modelling by our team predicted the binding interface between a viral protein, VP35, and the ubiquitin chains in human cells, and identified potential chemical compounds that could disrupt this interaction,” he said.

Ebola is a type of viral haemorrhagic fever caused by several species of viruses from the genus Ebolavirus. Symptoms of Ebola start out flu-like but can progress to severe vomiting, bleeding and neurological (brain and nerve) issues.

The finding, published in the journal PLOS Biology, not only deepens our understanding of how the virus works, but also offers a promising avenue for the creation of more effective therapies, the researchers said.

“In particular, it paves the way for the design of drugs capable of disrupting this interaction and slowing down viral replication,” Najmanovich said.

Notorious for its devastating outbreaks and high mortality rates, Ebola virus poses a significant threat to public health, the researchers said.
Understanding the intricate processes by which the virus replicates within the human body is essential for developing effective treatments, they said.

The latest study unravels some of the molecular intricacies of Ebola virus replication, shedding light on key proteins and pathways involved in the process.

The researchers were able to clarify structural and functional aspects of viral and human proteins interacting in a manner critical for viral replication.

One of the key findings of the study is the identification of one additional interaction for VP35, a multifunctional viral protein which plays a central role in viral replication.

The study revealed insights into the intricate interplay between Ebola virus and the host immune system.

By evading detection and subverting host defences, the virus is able to establish a foothold within the body, leading to unchecked replication and severe disease progression.

“This research underlines the importance of trying to understand the complex workings of viruses such as Ebola, and to develop innovative strategies to combat them,” Najmanovich added.

Chronic diseases

7 things to do if chronic diseases run in your family (The Times of India : 20240319)


Chronic diseases that often have a familial component include cardiovascular diseases, type 2 diabetes, certain cancers (such as breast, ovarian, prostate, and colorectal), Alzheimer's disease, autoimmune disorders (like rheumatoid arthritis and lupus), osteoporosis, obesity, hemochromatosis, hemophilia, and cystic fibrosis. These conditions can be influenced by genetic predispositions inherited from family members. However, lifestyle factors such as diet, exercise, and smoking habits also play significant roles in disease development. Understanding family medical history, regular check-ups, and adopting a healthy lifestyle is crucial for managing genetic risks and reducing the likelihood of chronic disease onset.

Start by gathering information about your family's medical history. Document any chronic conditions that have affected your relatives, including heart disease, diabetes, cancer,
hypertension, and others. Understanding your genetic predispositions can help you and your healthcare provider develop a personalized prevention plan.

Schedule regular check-ups with your healthcare provider to monitor your health status and screen for potential risk factors. Discuss your family history and any concerns you may have about inherited diseases. Your healthcare provider can recommend appropriate screenings, such as blood tests, genetic testing, or imaging studies, to assess your risk.

Embrace a healthy lifestyle that includes regular exercise, a balanced diet, adequate sleep, and stress management techniques. Engage in physical activities you enjoy, such as walking, swimming, or yoga, to maintain a healthy weight and reduce your risk of chronic diseases like obesity, heart disease, and diabetes. Choose nutrient-rich foods like fruits, vegetables, whole grains, lean proteins, and healthy fats to fuel your body and support overall health.

If you smoke or consume alcohol excessively, take steps to quit or reduce your intake. Smoking and excessive alcohol consumption are significant risk factors for chronic diseases like cancer, heart disease, and respiratory disorders. Seek support from healthcare professionals, counseling services, or support groups to help you overcome these habits and improve your health.

If you already have a chronic condition or are at increased risk due to family history, work closely with your healthcare provider to manage your condition effectively. Follow your treatment plan, take prescribed medications as directed, and attend regular follow-up appointments to monitor your progress. Implement lifestyle modifications, such as dietary changes or exercise programs, to help manage your condition and prevent complications.

Educate yourself about the specific chronic diseases that run in your family and learn about their risk factors, symptoms, and prevention strategies. Stay informed about advancements in medical research and treatment options related to these conditions. Seek reliable sources of information from reputable organizations, healthcare providers, or support groups to empower yourself with knowledge and make informed decisions about your health.

Consider seeking genetic counseling if you have concerns about inherited diseases or if your family history suggests a high risk of genetic conditions. A genetic counselor can help you understand your genetic risks, interpret genetic test results, and provide guidance on preventive measures and screening options. They can also discuss family planning considerations and support you in making informed decisions about genetic testing and healthcare management.
Cardio-vascular disease

Re-evaluating prevalence of risk factors for cardio-vascular disease among people in extreme poverty (The Hindu: 20240319)


A new study debunks the conventional belief that CVD is low among the poor; major risk factors including diabetes, hypertension, smoking have a significant prevalence across all sections, regardless of income, experts say

Among those living in extreme poverty who should be taking a statin for secondary prevention of CVD, only 1.1% were on the drugs.

Among those living in extreme poverty who should be taking a statin for secondary prevention of CVD, only 1.1% were on the drugs. | Photo Credit: Getty Images

It has conventionally been assumed that prevalence of cardiovascular disease (CVD) risk factors among those living in extreme poverty in low and middle-income countries (LMICs) is low.

Women

How women in India have fared (The Hindu: 20240319)

https://www.thehindu.com/sci-tech/science/how-women-in-india-have-fared/article67954823.ece

India, dubbed by the western media as a ‘developing nation’, has shown the way ahead with its inclusive policies.

At the graduate/postgraduate degree level, most girls opt for arts and science, or nursing and medicine.

At the graduate/postgraduate degree level, most girls opt for arts and science, or nursing and medicine. | Photo Credit: Getty Images
International Women’s Day was celebrated on March 8, 2024. The United Nations Development Programme (UNDP), in its ‘Gender Social Norms Index’ quantifies biases against women, capturing people’s attitude on women’s roles along four dimensions: political, educational, economic and physical integrity. It is the last two dimensions that men leave for women. Of the eight billion people across the world, 45% are women. Men claim that a woman’s job is to maintain homes, make food, make and care for babies, while men bring home the income. In many ‘developing countries’ across the world, women do not go to schools, but work as farm labourers and housemaids. The educational dimension is thus given a miss.

However, India, dubbed by the western media as a ‘developing nation’, has shown the way ahead with its inclusive policies. Since the last two decades, India has offered free education to all children — poor or rich, rural or urban — all the way to the high school certificate, in all the 28 States and Union Territories. And about 12 crores of these are girls. When we turn to higher education, at the graduate/postgraduate and doctoral degree level, most girls opt for arts and science, or nursing and medicine, while boys go for undergraduate and postgraduate degrees in computer science, biotechnology, and digital technology at the Ph. D level. But at most STEM (Science, technology, engineering and mathematics) Institutes across the country, only 20% are females. Also, among the faculty members in IITs, CSIR labs, AIIMS, IISERs and IIMs, only 20% are women. We thus need to improve this gender gap.

**HbA1C test**

**What is the HbA1C test and why is it used to check for diabetes? | Explained (The Hindu: 20240319)**

[https://www.thehindu.com/sci-tech/science/hba1c-test-blood-sugar-levels-india-diabetes-explained/article67949552.ece](https://www.thehindu.com/sci-tech/science/hba1c-test-blood-sugar-levels-india-diabetes-explained/article67949552.ece)

According to 2018 ICMR guidelines, everyone older than 30 years should be screened for diabetes. A haemoglobin test kit shown with a small blood sample. This device displays the level ("12.6") in grams per decilitre, which can be converted to a percentage or mmol/mol.
India is estimated to have 10.13 crore people with diabetes, and another 13.6 crore people who are pre-diabetic, according to a nationwide study published in 2023. This apart, over 35% of Indians suffer from hypertension and nearly 40% from abdominal obesity, both of which are risk factors for diabetes. India accounts for 17% of all diabetes patients in the world.

Prevention and early detection are key to helping combat this non-communicable disease burden, experts say. One of the most commonly-used tests to diagnose pre-diabetes and diabetes (both type 1 and type 2) and to help manage diabetes, is the haemoglobin A1C (HbA1C) test, also known as the glycated haemoglobin or glycosylated haemoglobin test.

kidney care

Tamil Nadu | Advancing equitable access to kidney care (The Hindu: 20240319)

https://www.thehindu.com/opinion/op-ed/tamil-nadu-advancing-equitable-access-to-kidney-care/article67961630.ece

The need of the hour is to check blood creatinine levels to assess kidney function and use the dipstick method to check whether there is excess protein in urine among high-risk populations, in primary care. Image for representation.

World kidney day is celebrated every year on the second Thursday of March. The theme of this year is ‘Advancing equitable access to care and optimal medication practice’. The first Department of Nephrology in India was started at the Government General Hospital and the Premier Institute of Madras Medical College in Tamil Nadu in December 1971. The State has crossed many milestones since, including running a successful dialysis programme under the Chief Minister’s Comprehensive Health Insurance Scheme (CMCHIS) — only Tamil Nadu and Kerala run a hemodialysis programme at government hospitals without opting for the PPP model — and delivering peritoneal dialysis bags at the doorstep of patients through the Makkalai Thedi
Maruthuvam scheme, launched by Chief Minister M.K. Stalin in 2021 to provide healthcare at the doorstep of patients including screening, drug delivery, and palliative care. But there is still a long road towards the goal of ensuring kidney health for all.

Chronic kidney disease is the fifth leading cause of mortality in Tamil Nadu. This means that Tamil Nadu needs special attention compared to most other States. A recent step survey, conducted by the Institute of Nephrology and Institute of Community Medicine, Madras Medical College, estimated chronic kidney disease to be prevalent in 8.4% of the adult population of Tamil Nadu; 0.3% will require dialysis immediately. With diabetes and hypertension increasing in the population, the burden of chronic kidney disease will only increase. This will impact not only the health of the people, but also the economy. Every year, the Tamil Nadu government spends more than ₹100 crore for hemodialysis alone for the CMCHIS; this is the highest amount being spent on one disease.

Superfoods

6 superfoods those with diabetes should include in their diet (Indian Express: 20240319)

https://indianexpress.com/article/lifestyle/food-wine/6-superfoods-diabetes-diet-9201631/

By incorporating these superfoods and making informed dietary choices, you can empower yourself to manage your diabetes effectively and live a healthy, fulfilling life.

Living with diabetes, whether type 1 or type 2, requires careful dietary management to control blood sugar levels. While there’s no single “magic food” that cures diabetes, incorporating certain superfoods into your diet can provide valuable benefits and support overall health.

“Incorporating superfoods into a diabetic diet can provide essential vitamins, minerals, antioxidants, and fibre without causing significant spikes in blood glucose,” explained Ekta Singhiwal, dietician, Ujala Cygnus Group of Hospitals.
Cervical cancer

Cervical cancer: Till what age can one take HPV vaccine? (Indian Express: 20240319)


While 9 to 14 is the right age to take the HPV vaccine, women who missed the jabs at the recommended age can still have some protection against cervical cancer, said experts on Monday.

Human papillomavirus (HPV) is a very common infection and high-risk strains are known to cause cervical cancer. India accounts for 1 in every 5 or 21 per cent of cervical cancer cases, according to a recent study published in the journal The Lancet Global Health. The cancer also causes almost one in every four or 23 per cent deaths in the country.

The HPV vaccine is most effective when given to adolescents between 9 to 14 years of age. Yet it is still recommended for up to 45 years of age, the experts told IANS.

“It is crucial for every girl to receive the cervical cancer vaccination between the ages of 9 to 26, as it is most effective when administered before the onset of sexual activity. This vaccine protects against the HPV strains responsible for cervical cancer. However, even individuals beyond the age of 26 and maximum till 45 may benefit from the vaccine, particularly if they have not been previously exposed to HPV,” Dr Chetna Jain, Director Dept of Obstetrics & Gynecology, Cloudnine Group of Hospitals, Gurugram, told IANS.

“Today, younger generations are becoming sexually active with multiple partners at earlier ages, highlighting the importance of vaccination. If the cervical cancer vaccine is administered after the recommended age range, girls and women may still benefit from protection against certain HPV strains. Nonetheless, the vaccine's efficacy may reduce with an increased risk of HPV exposure,” she added.

Dr. Rinku Sen Gupta Dhar, Obstetrician and Gynaecologist at Madhukar Rainbow Children’s Hospital, Delhi, said that individuals who have missed the recommended age limit can still benefit from the vaccine. “The upper age limit for HPV vaccine is 45,” the doctor told IANS.

The doctors stressed the importance of regular cervical cancer screenings remain crucial for early detection and prevention, regardless of vaccination status.

Dr. Rinku explained that HPV infection, which is often symptomless, can persist for years and can lead to cancer if not addressed.
Chronic respiratory diseases

COPD, asthma to drive India's critical care ventilator market: Report (New Kerala: 20240319)


Increasing cases of chronic respiratory diseases such as Chronic Obstructive Pulmonary Disease (COPD) and asthma in India are expected to push the growth of critical care ventilator services market in the country at a compound annual growth rate (CAGR) of 4 per cent by 2033, according to a report on Monday.

The report by GlobalData, a data and analytics company reveals that India accounted for about 21 per cent of Asia-Pacific’s critical care ventilator market in 2023.

“Urbanisation and industrial expansion have worsened air pollution in India, leading to more respiratory diseases like COPD,” said Kanchan Chauhan, Medical Devices Analyst at GlobalData.

She noted that the advent of the Covid-19 pandemic stressed the critical need for ventilators in treating patients with severe respiratory issues.

Additionally, India is seeing an increase in critical care admissions with the rise in ageing population and evolving disease trends.

“Patients with severe respiratory illnesses often require intensive care and mechanical ventilation. This surge in demand has driven up the need for critical care services and equipment, including ventilators, in hospitals across the country,” Chauhan said.

“In conclusion, India's healthcare sector is undergoing a remarkable evolution driven by technological progress, particularly evident in critical care ventilators. The nation's proactive response to the rising prevalence of respiratory diseases and an ageing population underscores its commitment to innovation, safety, and improving public health outcomes,” Chauhan added.
Gut bacteria

Gut bacteria generate neurotransmitters that shape the neonatal immune system: Study (New Kerala: 20240319)


Weill Cornell Medicine researchers discovered that specific bacteria colonise the gut shortly after birth and produce the neurotransmitter serotonin, which educates gut immune cells. This helps to prevent allergic responses to both food and microbes during early development.

The preclinical study, published in Science Immunology on March 15, showed that bacteria abundant in the guts of newborns produce serotonin, which promotes the development of immune cells called T-regulatory cells or Tregs. These cells suppress inappropriate immune responses to help prevent autoimmune diseases and dangerous allergic reactions to harmless food items or beneficial gut microbes.

"The gut is now known as the second human brain as it makes over 90 per cent of the neurotransmitters in the human body. While neurotransmitters such as serotonin are best known for their roles in brain health, receptors for neurotransmitters are located throughout the human body," explained the study's senior author, Dr. Melody Zeng, an assistant professor of immunology in the Gale and Ira Drukier Institute for Children's Research and the Department of Pediatrics at Weill Cornell Medicine.

Gut Bacteria in Babies Provide a Helping Hand

The researchers observed that the neonatal mouse gut had much higher levels of neurotransmitters, including serotonin, than the adult gut. "So far, almost all studies of gut neurotransmitters were conducted in adult animals or human subjects, where a specific gut cell type called enterochromaffin cells produce neurotransmitters," said Dr. Zeng. "However, we discovered that this isn't the case in the newborn gut where most of the serotonin is made by bacteria that are more abundant in the neonatal gut."
This was also confirmed in babies through a human infant stool biobank that the Zeng lab has established in collaboration with the Neonatal Intensive Care Unit in the NewYork-Presbyterian Alexandra Cohen Hospital for Women and Newborns. These samples were obtained with parental consent and de-identified.

The study results suggest that before the neonatal gut is mature enough to make its neurotransmitters, unique gut bacteria may supply neurotransmitters that are needed for critical biological functions during early development.

"We found that gut bacteria in young mice not only directly produce serotonin but also decrease an enzyme called monoamine oxidase that normally breaks down serotonin, thus keeping gut serotonin levels high," said the study's lead author Dr Katherine Sanidad, a postdoctoral associate in paediatrics at Weill Cornell Medicine.

The high serotonin levels shift the balance of immune cells by increasing the number of Tregs, which helps prevent the immune system from overreacting and attacking gut bacteria or food antigens. "The neonatal gut needs these serotonin-producing bacteria to keep the immune system in check," Dr. Sanidad added.

Healthy Immune System Helps Later in Life

Dr Zeng noted that this work underscores the importance of having the right types of beneficial bacteria soon after birth. Babies in developed countries have better access to antibiotics, less exposure to diverse microbes in their clean environments and potentially unhealthy diets that may significantly impact the abundance of serotonin-producing bacteria in their intestines.

As a result, these babies may have fewer Tregs and develop immune reactions to their own gut bacteria, or allergies to food. This may be one reason food allergies have become increasingly common in children, particularly in developed countries. "If educated properly, the immune system in babies would recognize that things like peanuts and eggs are okay, and it doesn't have to attack them," she said. This may also have an impact on developing autoimmune diseases--when the immune system attacks the body's own healthy cells--later in life.

The team next plans to look at bacteria in human infant stool samples to measure their production of serotonin, other neurotransmitters and molecules that may help train the immune system to prevent future immune-related diseases, such as allergies, infections and cancer.

"It's essential to understand how the immune system is trained during early life, but this is understudied in newborns and children. Further studies of these developmental periods may hopefully lead us to mitigation approaches to reduce the risk of inflammatory diseases like food allergies and inflammatory bowel disease later in life," Dr Sanidad said.
T cells

Here is why killer T cells lose energy inside of solid tumors, finds study (New Kerala: 20240319)


T cells are commonly referred to be "assassins" or "killers" because they can plan and execute missions to hunt down bacteria, viruses, and cancer cells throughout the body. As powerful as T cells may be, current research has revealed that once they enter the environment of a solid tumor, they lose the energy required to fight the malignancy.

A research team led by Jessica Thaxton, PhD, MsCR, associate professor of cell biology and physiology and co-leader of the Cancer Cell Biology Program at the UNC Lineberger Comprehensive Cancer Center, aimed to understand why T cells do not sustain energy in tumors. Using their expertise in tumor immunity and metabolism, the Thaxton Lab, led by the Katie Hurst, MPH, and 4th year graduate student Ellie Hunt, found that a metabolic enzyme called Acetyl-CoA Carboxylase (ACC) causes T cells to store fat rather than burning fat for energy.

"Our discovery fills a long-standing gap in knowledge regarding why T cells in solid tumors don't appropriately generate energy," said Thaxton. "We inhibited the expression of ACC in mouse cancer models, and we observed that T cells were able to persist much better in solid tumors."

The new findings and immunotherapeutic strategies, which were published in Cell Metabolism, could be used to make multiple types of T-cell therapies more effective for patients, possibly encompassing both checkpoint and chimeric antigen receptor (CAR) T-cell therapies.

In the field of cancer immunotherapy, it has long been known that T cells are not able to create their cellular energy, called adenosine triphosphate or ATP, when they are inside of a solid tumor.

In 2019, Thaxton's lab studied a T cell with optimal antitumor function. In a publication in Cancer Immunology Research, Hurst and Thaxton used a proteomics screen to identify enzymes associated with the optimal antitumor metabolism of these T cells. Through this screen, the two discovered that ACC expression may limit the ability of T cells to make ATP in tumors. ACC, a key molecule that is involved in many metabolic pathways, blocks cells from breaking down fat and using it as fuel for energy in mitochondria.

"Acetyl-CoA carboxylase can drive the balance between storing lipids versus breaking down those lipids and feeding them into the citric acid cycle for energy," said Thaxton. "If ACC is flipped 'on', cells generally store lipid. If ACC is 'off', cells tend to use the lipid in their mitochondria to make ATP."
Using Hunt's expertise in confocal imaging, the research team was able to observe lipid stores in T cells isolated from multiple types of cancers. The observation, as well as other experiments, confirmed the team's hypothesis that T cells were storing lipids instead of breaking them down.

Thaxton's team then used CRISPR Cas9-mediated gene deletion to see what would happen if they "deleted" ACC from the picture. There was a rapid reduction in the amount of lipid storage in T cells, and the team was able to visualize fat relocating to the mitochondria to be used to generate energy.

Thaxton now hypothesizes that T cells may need a "delicate balance" of lipids to persist in solid tumors with a certain amount of lipid dedicated to cancer cell assassination and low levels of fats being maintained in stores.

The latest findings could prove to be useful in enhancing chimeric antigen receptor (CAR) T-cell therapies. This cutting-edge technology takes T cells out of cancer patients, modifies them in the lab to hunt down tumor cells, and then re-infuses the cells to fight the patient's cancer. Preliminary data from Thaxton's lab demonstrates that even the manufactured T cells contain excess lipid stores.

The lab is starting to look in patient samples to understand how researchers can possibly flip the ACC metabolic switch directly in patient tumors, negating the need to take out and reinfuse cells back into the body. But researchers must first determine how this could affect other immune cell populations in the body, such as macrophages.

**Tobacco, alcohol**

*Tobacco, alcohol raises risk of head and neck cancers by 35-fold: Experts* *(New Kerala: 20240319)*


Tobacco and alcohol are the two major reasons behind the rising cases of head and neck cancers (HNC) in India, accounting for a 35-times higher risk, experts said on Sunday.

HNC typically consists of anatomical sub-sites like tongue, mouth, other parts of the pharynx like oropharynx, nasopharynx, hypopharynx, salivary glands, nasal cavity, larynx (voice box), etc.

"India is considered the head and neck cancer capital of the world. Head and neck cancer (HNC) accounts for about 17 per cent of all newly diagnosed cancer cases in India of which mouth cancer
in males is most common in India. The lifestyle of people, particularly in the northern regions, where smoking or chewing tobacco is common, is a significant cause of the high burden of head and neck cancer," Dr. Mudit Agarwal, Unit Head & Senior Consultant, Head & Neck Oncology, Rajiv Gandhi Cancer Institute & Research Centre (RGCIIRC), told IANS.

"Compared to the Western countries (with a prevalence of 4 per cent), HNC accounts for 27.5 per cent of all cancers in India. These cancers are most common in our male population and are fourth in incidence among females," added Dr Ashish Gupta, Chief Oncologist, Unique Hospital Cancer Centre, Delhi who is heading Cancer Mukt Bharat Campaign in India.

The experts blamed changing lifestyles, increased longevity, and addiction to tobacco and alcohol. "Tobacco (smoked or chewable forms), alcohol, areca nut (pan masala), and dietary malnutrition are common etiological factors which are also important downstream social determinants. Heavy users of both tobacco and alcohol have a 35-fold higher risk of head and neck cancers," Dr Ashish told IANS.

In India, unfortunately, 60-70 per cent of patients come at an advanced stage, as a consequence of which most receive radical treatment which may be disfiguring to some extent.

However, with medical advancements like jaw reconstruction surgery, computer-assisted 3D designing technology, and facial reanimation techniques, the treatment now emphasises patient rehabilitation, Mudit said.

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Cucumber Juice
क्या रोजाना खीरे का जूस पीने से होता है फायदा, पीते समय इस बात का रखें ख्याल

Cucumber Juice: गर्मी शुरू होते ही मार्केट में खीरा मिलना शुरू हो जाता है। कुछ लोग इसे सलाद की तरह खाते हैं तो वहीं कुछ लोग इसका जूस पीते हैं। लेकिन क्या रोजाना(Hindustan : 20240319)

https://www.livehindustan.com/lifestyle/health/story-is-it-good-to-drink-cucumber-juice-every-day-keep-this-in-mind-while-drinking-it-9571461.html
ये बॉडी को हाइड्रेट रख सकता है। इसमें प्राकृतिक रूप से विटामिन और मिनरल्स की अच्छी मात्रा होती है। हालांकि, कुछ लोग इसके जूस को चारा पसंद करते हैं। लेकिन क्या रोजाना इसे चारा पसंद करते हैं? जानिए इसके लाभ और नुकसान।

इसमें प्राकृतिक रूप से लिटलमन और लाम्नरल्स की अच्छी मात्रा होती है। हालांकि, कुछ लोग इसके जूस को पीना पसंद करते हैं। हालांकि, कुछ लोग इसके जूस को पीना पसंद करते हैं।

ई- पेपर शहर चुनें
होम राज्य देश क्रिकेट नॉर्थ इंडिया बिजनेस विदेश धर्म

3/19/24, 10:39 AM Is it good to drink cucumber juice every day Keep this in mind while drinking it - क्या रोजाना इसे जूस पीना सही है? क्या रोजाना इसे जूस पीना सही है? क्या रोजाना इसे जूस पीना सही है?


विशेषता
खीरे के फायदे
- खीरे में लैसीसिनॉल, पिनोसिनॉल और सेकोइसोलारिसिनॉल होते हैं। जिनका कैंसर की रोकथाम में बहुत अच्छा प्रभाव होता है।
- ब्लडप्रेशन को नियंत्रित करता है खीरे में भरपूर मात्रा में मैग्नीशियम, पोटेशियम और फाइबर होता है इसलिए यह ब्लडप्रेशन को नियंत्रित करने में मददगार है।
- ओरल हेल्थ के लिए ये फायदेमंद है। खीरे में पानी और फाइबर की मात्रा बहुत ज्यादा होती है, जो मसूडों और दांतों के लिए अच्छा है।
- ये पाचन तंत्र को स्थिर करता है। अगर आपको कब्ज़, अपच, सीने में जलन, और पेट फूलने की दिक्कत है तो ये लक्षणों को सीमित करने और सुधारने में मदद करेगा।

क्या रोजाना पी सकते हैं खीरे का जूस
जी हां, रोजाना खीरे का जूस पी सकते हैं। खीरे के रस के फायदे को बढ़ावा देने के लिए आपको इसे सुबह, इसके तैयार करने के तुरंत बाद पीना चाहिए।

हालांकि, इस जूस को एक्सरसाइज़ करने के तुरंत बाद भी पी सकते हैं। ये जूस पाचन तंत्र को बेहतर बनाता है। ध्यान रखें कि वजन कम करने के लिए खीरे के जूस का पीना चाहते हैं तब इसे सोने से 30 मिनट पहले पीना चाहिए। वेट लॉस वाले जूस में अजजवाइन, नींबूनीं बूंदौं और अदरक मिलाकर शहद मिलाकर पी सकते हैं।

ध्यान रखें ये बात
जरूरी नहीं कि खीरे के जूस से हर किसी को फायदा हो, कुछ लोगों को नुकसान भी हो सकता है। ऐसे में इसे पीते समय कुछ बातों का ध्यान रखें।

- खीरे में बहुत पानी और फाइबर होता है, इसलिए इसका प्रभाव कम होता है। हालांकि, इसे बहुत ज्यादा पीने से भी डिहाइड्रेशन हो सकता है।

- खीरे में कुकुर्बिटासिन बहुत अपचनीय है और कमजोर पाचन वाले लोगों के लिए काफी संवेदनशील होता है। अपच के कारण आपका पेट फूला हुआ महसूस होता है।

- खीरे का ठंडा प्रभाव आपके श्वसन संबंधी लक्षणों को बदतर बनाने का कारण होता है।

आखिर क्यों होती है Hot Flashes की समस्या, जानिए इसके लक्षण और कैसे निपटे।

यह भी पढ़ें
एप पर पढ़ें
3/19/24, 10:39 AM Is it good to drink cucumber juice every day Keep this in mind while drinking it - क्या रो जा ना खीरे का जूस पी ने से हो ता है फा यदा, पी ते सम...


Health Tips

Tips to manage work pressure:
काम का बढ़ता बोझ बढ़ा रहा है टेंशन, राहत देंगे ये 5 आसान सिंपल टिप्स(Indian : 20240319)

Tips to manage work pressure: ऑफिस में बढ़ती जिम्मेदारियों की वजह से महसूस होने वाला वर्कप्रेशर आपके लिए थकावट और बर्नआउट का कारण न बने, इसके लिए आइए।

जानते हैं आपको अपनाने होंगें होंगें गेक्या टिप्स।

Tips to manage work pressure: आधुनिक जिंदगी की भागदीड़ और ऑफिस में बढ़ते कॉम्पटीशन की वजह से ज्यादा युवा स्ट्रेस में रहते हैं। व्यक्ति का कार्यस्थल उसके लिए कई अवसरों का क्षेत्र होता है, जो उसे उसके करियर में आगे बढ़ने के लिए लगातार प्रेरित करता रहता है। हालांकि, इन अवसरों के साथ व्यक्ति के पास कई तरह की जिम्मेदारियाँ भी आती हैं। जिन्हें पूरा करने के लिए बारह मानसिक समस्याओं से जूझने लगता है। ऐसे में बढ़ती ऐप पर पढ़ें ई-पेपर शहर चुनें

होम NCR देश क्रिकेट मनोरंजन करियर एजुकेशन विदेश धर्म

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जिम्मेदारियों की वजह से महसूस होने वाले ये वर्कप्रेशर आपके लिए धकाव कर बर्नआउट का कारण न बने और आप शारीरिक और मानसिक रूप से स्वस्थ बने रहें, इसके लिए आइए जानते हैं आपको अपनाने होंगें गेक्या टिप्स।

विज्ञापन

स्ट्रेस से निजात दिलाते हैं ये टिप्स-

‘ब्रीदिंग ब्रेक’ लें-

एक्सपर्ट की मानें तो काम के बढ़ने प्रेशर से न सिर्फ व्यक्ति की काम की गणवत्ता पर बल्कि शारीरिक और मानसिक स्वास्थ्य पर भी बुरा असर पड़ता है। जिससे राहत पाने के लिए व्यक्ति को खुद के लिए एक हेल्दी लक्ष्य निर्धारित करना चाहिए। इसके लिए कुछ घंटे काम करने के बाद थोड़ी देर के लिए बाहर प्रेशर ऑक्सीजन लेने के लिए एक छोटा ब्रेक लें। इस प्रकार का ‘ब्रीदिंग ब्रेक’ लेने से व्यक्ति का व्यस्त दिमाग थोड़ा रिलेक्स फील करता है और मांसपेशियों को थोड़ी देर आराम मिलता है। जिससे व्यक्ति की काम करने की गणवत्ता में सुधार होता है।

अपने काम को प्राथिमिकता देते हुए निपटाएं.
अक्सर अव्यस्थित तरीके से काम करने की कजह से भी व्यक्ति को तनाव महसूस होने लगता है। ऐसे में यह जरूरी है कि आप अपने लिए दिन का एक शेड्यूल तैयार करके हर काम को व्यस्थित तरीके से निपटाने की कोशिश करें। ऐसा करने से आप काम के बीच में लिए गए ब्रेक को भी कुशल तरीके से मैनेज कर सकेंगे।

अपने काम के घंटों को करें निर्धारितकार बार व्यक्ति यह सोचकर घंटों काम करता रहता है कि अगर वो किसी काम को करने के लिए मना करेंगे तो उनकी वैत्यू कम हो जाएगी या बॉस नाराज हो जाएगे। लेकिन वह आप जानते हैं लगातार घंटों एक ही जगह बैठकर काम करने से व्यस्त के क्षेत्र में असर पड़ता है। ऐसा करने से व्यस्त को तनाव, चिंता और डिस्ट्रेशन जैसी समस्याएं हो सकती हैं। ऐसे में इन समस्याओं से बचने के लिए सबसे पहले अपने काम के घंटों को निर्धारित करें। खुद से इस बात का निर्णय लें कि आप क्यों घंटों में खत्म करना है। निर्धारित समय का लक्ष्य होने से काम को एक्टिव रहते हुए जल्दी निपटाया जा सकता है।

जिससे आपके काम की कालिटी भी बेहतर बनती है।

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Health Tips In Hindi

खुद के लिए भी हर दिन निकालें समयऑफिस के काम और व्यक्तिगत जीवन में एक समय सीमा जरूर बनाएं। इसके लिए रोजाना काम से लौटने के बाद अपने लिए समय जरूर निकालें। इस समय में आप अपना कोई मनपसंद काम जैसे अच्छा खाएं, अच्छा संगीत सुनें, अच्छी किताबें पढ़ें, एक्सरसाइज कर सकते हैं। ऐसा करने से व्यक्ति का स्ट्रेस लेवल कम होगा और वो अगले दिन ऑफिस में अच्छा काम करेगा।

'ना' कहना भी सीखें।

ऑफिस में अपना सूफीस्तीदी देना अच्छी बात है, लेकिन हर किसी को हर चीज के लिए हां कहने से आपकी सेहत और मेंटल पीस खराब हो सकती है। ऐसा
करने से आपका वर्क लोड बढ़ने के साथ आप स्ट्रेस में भी आ जाएंगे। ऐसे में तनाव से खुद को दूर रखने के लिए कुछ काम को 'न' कहना भी सीखें।
अपनी प्रोफेशनल और व्यक्तिगत लाइफ के बीच अंतर बनाएं रखें। हर वक्त काम के लिए हां करना आपके शारीरिक, परिवारिक और मानसिक स्वास्थ्य पर बुरा असर डाल सकता है।
ऐसे पर पढ़ें

**Diabetes Ayurvedic Remedy:**

**Diabetes Ayurvedic Remedy:** डायबिटीज के मरीजों की जान हैं 5 आयुर्वेदिक चीजें, खून से सोख लेंगी शुगर की बीमारी।,(Navbharat Times : 20240319)


Best Foods To Lower Blood Sugar: डायबिटीज आपकी किडनी, आंख और नसों के लिए काफी नुकसानदायक है। इसे कंट्रोल करने के लिए प्राकृतिक जड़ी बूटियों का इस्तेमाल किया जा सकता है। जो कि सदियों से कई सारी बीमारियों से छुटकारा दिलाती आ रही है।

**diabetes ayurvedic treatment**

जीवनशैली में बदलाव से मधुमेह को मात दें - अभी रजिस्टर करने के लिए यहां क्लिक करें

[डील देखें]

जीवनशैली में बदलाव से मधुमेह को मात दें - अभी रजिस्टर करने के लिए यहां क्लिक करें

[शॉपिंग: सेल! मेगा इलेक्ट्रॉनिक्स डेज (11-18 अप्रेल) - 80% तक छूट प्राप्त करें]

[डील देखें]

शॉपिंग: सेल! मेगा इलेक्ट्रॉनिक्स डेज (11-18 अप्रेल) - 80% तक छूट प्राप्त करें

क्या आप iPhone 15 जीतने के लिए लकी ड्रॉ को हिस्सा बनना चाहेंगे?

[डील देखें]

क्या आप iPhone 15 जीतने के लिए लकी ड्रॉ को हिस्सा बनना चाहेंगे?
बेहतर स्वास्थ्य पाने के लिए सदियों से नैचुरल उपायों का इस्तेमाल किया जाता रहा है। ब्लड शुगर कंट्रोल करने में जड़ी बूटियों और आयुर्विदिक पौधों को काफी पसंद किया जाता है। क्योंकि ये प्राकृतिक रूप से ग्लूकोज लेवल को नियंत्रित करने में मदद करते हैं। आइए डायबिटीज कम करने वाले ऐसे ही कुछ शाक्तिशाली जड़ी बूटियों और पौधों के बारे में जानते हैं।

नीम

neem leaves

नीम को कई सारी बीमारियों की आयुर्विदिक दवा के रूप में जाना जाता है। नीम में मौजूद बायोएस्थिक पाउंड एंटी डायलबलटक इफेक्ट वाले हैं। यह इंसुलिन सेंसिटिविटी को बढ़ाता है और सेल्स को ग्लूकोज को एंटी लेने में मदद करता है। नीम की लतियां या अर्क का सेवन करने से मधुमेह से जुड़ी कॉम्बिनेशन को कम करने और ब्लड शुगर को नियंत्रित करने में मदद कर सकता है।

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अपने भोजन के अलावा दालचीनी को इसके ब्लड शुगर को कंट्रोल करने के क्षमता के लिए भी जाना जाता है। जर्नल ऑफ ट्रेडिशनल एंटी डायलबलटक मेडिसिन में प्रकाशित एक अध्ययन के अनुसार, दालचीनी इंसुलिन सेंसिटिविटी को बढ़ाने और खाली रात का दौरान ब्लड शुगर को कम करने में मदद करती है। अपने भोजन और हॉयस्क्रास से धोड़ी सी दालचीनी ढालकर आप स्वादिष्ट तरीके से अपने ब्लड ग्लूकोज को सामान्य बनाए रखने में मदद कर सकते है।

Kidney Care: Diabetic के मरीज अपने किडनी का ऐसे रखें ख्याल, देखें वीडियो

हल्दी

raw turmeric

हल्दी अपने चमकीले रंग और औषधीय गुणों के लिए जानी जाती है। करक्कुमिन हल्दी में पाया जाने वाला एक पावरफुल कंपाउंड है जो कि एंटी डायलबलटक और एंटी इंफ्लामेटरी इफेक्ट के लिए जाना जाता है। टीवीआई ने हिंदी में प्रकाशित शोध के हवाले से बताया कि करक्कुमिन इंसुलिन रेजिस्टेंस और ब्लड शुगर को कम करने में मदद कर सकता है। अपनी डाइट में हल्दी को सज्जी, चाय या गोल्डन मिल्क के रूप में शामिल करने से आप अपने पूरे स्वास्थ्य को बेहतर बना सकते हैं।
मेथी
fenugreek methi water
मेथी के कई स्वास्थ्य लाभ हैं, जिनमें से एक ब्लड शुगर को नियंत्रित करने की क्षमता है। मेथी के दानों में सॉल्यूबल फाइबर और ट्राइगोनेलाइन जैसे पदार्थ पाए जाते हैं, जो इंसुलिन सेंसिटिविटी को बढ़ा सकते हैं और ग्ल्यूकोज के मेटाबॉलिज्म को कंट्रोल कर सकते हैं। मेथी के दानों को पानी में भिगोकर खाने या डाइट में डालने से ब्लड ग्ल्यूकोज को बेहतर नियंत्रित किया जा सकता है।

आंवला
amla juice
आंवला को कभी-कभी इंडियन गूजबेरी भी कहा जाता है। यह अपने पावरफुल एंटीऑक्सीडेंट और हाई विटामिन सी के लिए अस्थिर फायदेमंद माना जाता है। यह सुपरफ्रूट पैकेजिंग फंक्शन को बेहतर बनाता है और ब्लड ग्ल्यूकोज को कम करता है जो बताता है कि इसमें एंटी डायबिटिक गुण हैं। आंवला का सेवन ताजे फल, जूस या पाउडर के रूप में करने से मेटाबॉलिक हेल्थ को सही किया जा सकता है।

Pain After Delivery

Pain After Delivery: डिलीवरी के बाद इस वजह से होता है कमर दर्द, एक्सपर्ट का सुझाव- ये 3 विटामिन जरूर लें(Navbharat Times : 20240319)


शरीर में कैल्शियम की कमी से हंगियां कमजोर होती है जो कमर दर्द का मुख्य कारण बनती है। इसके अलावा विटामिन-D3 की कमी से भी कमर दर्द और मासपेशियों का दर्द होता है।
what causes back pain in women after delivery know from senior dietitian and chief nutritionist himanshu rai

Pain After Delivery: डिलीवरी के बाद इस वजह से होता है कमर दर्द, एक्सप्टर का सुझाव- ये 3 विटामिन जरूर ले

जीनेशिल में बदलाव से मधुमेह को माते - अभी रजिस्टर करने के लिए यहां क्लिक करें
डील देखें

जीनेशिल में बदलाव से मधुमेह को माते - अभी रजिस्टर करने के लिए यहां क्लिक करें
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क्या आप iPhone 15 जीतने के लिए लकी ड्रॉ का हिस्सा बनना चाहेंगे?
डील देखें

क्या आप iPhone 15 जीतने के लिए लकी ड्रॉ का हिस्सा बनना चाहेंगे?

डिलीवरी के बाद कमर दर्द एक आम समस्या है जिससे महिलाओं को दो-चार होना पड़ता है। खास तौर पर वो महिलाएं जिनकी सी-सेक्शन से डिलीवरी हुई है उन्हें अक्सर कमर दर्द की शिकायत रहती है। एक स्टडी के मुताबिक डिलीवरी के बाद 80 फीसदी महिलाओं को कमर दर्द की शिकायत रहती है।

सीनियर डाइटीशियन और चीफ न्यूट्रिशनिस्ट हिमांशु राय के मुताबिक पोस्टपॉर्टम कमर दर्द के पीछे मुख्य कारण न्यूट्रिशनल डिटेल्स होती है। डिलीवरी के बाद महिलाओं के शरीर में कई तरह के पोषक तत्वों जैसे कैल्शियम, विटामिन-डी, मैगनेशियम और आयरन की कमी हो जाती है जिससे जोड़ों और मांसपेशियों में दर्द, थकान, चिंताविड़ापन आदि जैसी समस्याएं देखने की मिलती है।

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आयरन और मैगनेशियम की कमी भी शरीर में कमजोरी का कारण बन सकती है। डिलीवरी के बाद आवश्यक पोषक तत्व हिमांशु राय के अनुसार डिलीवरी के बाद महिलाओं को कुछ खास पोषक तत्वों की बहुत जरूरत होती है।
आयरन: आयरन की कमी से ना सिर्फ मां बल्कि बच्चे के विकास पर भी असर पड़ता है। डिलीवरी के बाद मां को हरी पत्तेदार सब्जियां, अंडे, साग, मछली आदि का सेवन करना चाहिए।

कैल्शियम: कैल्शियम हड्डियों की मजबूती के लिए सबसे ज्यादा जरूरी है। डिलीवरी के बाद महिलाओं को कैल्शियम युक्त पदार्थ जैसे दूध, दही, पनीर, मखाने, साग, टोफू आदि का सेवन करना चाहिए।

मैगनीशियम: डिलीवरी के बाद कई महिलाओं को हर वक्त थकावट महसूस होती है और एनर्जी लेवल डाउन रहती है। ऐसा शरीर में मैगनीशियम की कमी से होता है।

पोषक तत्त्वों की कमी न होने के लिए हिमांशु राय कहते हैं कि महिलाओं में मुख्यतः कैल्शियम, विटामिन-डी, विटामिन-सी, विटामिन-B-12, आयरन और मैगनीशियम की कमी देखने को मिलती है। अगर इन पोषक तत्त्वों की कमी को पूरा कर दिया जाए तो महिलाओं को कमर दर्द की समस्या में काफी हद तक आराम मिल सकता है।

मैगनीशियम सप्लीमेंट है जरूरी

खास तौर पर महिलाओं के लिए बनाए गए कैल्शियम सप्लीमेंट का जिक्र करते हुए हिमांशु राय बताते हैं कि प्लांट बेस्ड वेज कैल्शियम सप्लीमेंट थिंक यू हर फुल कैल्शियम में महत्वपूर्ण पोषक तत्व मौजूद हैं जो महिलाओं को पोस्टपर्याप्त कमर दर्द से लड़ने में मदद करेंगे।

मैगनीशियम लेना न भूलें
मैग्नीशियम से भरपूर इस फॉर्मूले में हँड़ों को मजबूती प्रदान करने के साथ-साथ 600 आईयू की मात्रा में वेज विटामिन डी-3 शामिल किया गया है जिससे शरीर में कैल्शियम आसानी से अवशोषित हो सके।