



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
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किडनी फेलियर

क्रिएटिनिन बढ़ने से हो सकती है किडनी फेलियर, इन उपायों से रखिए इसे कंट्रोल (Amar Ujala: 20240213)

<https://www.amarujala.com/photo-gallery/lifestyle/fitness/high-creatinine-levels-kidney-failure-know-how-to-keep-creatinine-levels-normal-2024-02-12>

किडनी की समस्याएं

किडनी को शरीर के सबसे महत्वपूर्ण अंगों में से एक माना जाता है, ये आपके शरीर से अपशिष्ट और अतिरिक्त तरल पदार्थ को निकालने के साथ रक्तचाप को कंट्रोल करने, पीएच लेवल को मेंटेन रखने और हार्मोन्स के स्तर को ठीक बनाए रखने में भी मददगार है। हालांकि पिछले कुछ वर्षों में जिन अंगों से संबंधित बीमारियों को बढ़ते हुए देखा गया है, किडनी उनमें से एक है।

इतना ही नहीं कम उम्र के लोग भी किडनी की बीमारियों के शिकार होते जा रहे हैं। स्वास्थ्य विशेषज्ञ कहते हैं, किडनी की समस्याओं पर अगर समय रहते ध्यान न दिया जाए तो ये किडनी फेलियर का भी कारण बन सकती है।

स्वास्थ्य विशेषज्ञ बताते हैं, किडनी फेलियर के अधिकतर मामलों में रक्त में क्रिएटिनिन की मात्रा बढ़ने को एक कारण पाया जाता है। आखिर क्या होती है क्रिएटिनिन? इससे किडनी को किस प्रकार से नुकसान पहुंचती है और इसे कंट्रोल करने के लिए क्या उपाय किए जा सकते हैं, आइए इस बारे में जानते हैं।

हाई क्रिएटिनिन के नुकसान
क्रिएटिनिन और किडनी रोगों का खतरा

क्रिएटिनिन मांसपेशियों द्वारा उत्पादित एक अपशिष्ट उत्पाद है, सामान्यतः हमारी किडनी इसे फिल्टर कर देती है। अगर रक्त में क्रिएटिनिन की मात्रा अधिक हो जाए तो किडनी के लिए इसे फिल्टर कर पाना कठिन हो जाता है और गंभीर स्थितियों में ये किडनी फेलियर का भी कारण बन सकती है।

आहार-लाइफस्टाइल में सुधार करके क्रिएटिनिन के स्तर को ठीक बनाए रखने में मदद मिल सकती है। आइए जानते हैं कि इसके लिए किन चीजों का सेवन लाभकारी माना जाता है।
प्रोटीन वाली चीजों का सेवन करें संयमित

शोध से पता चलता है कि अधिक मात्रा में प्रोटीन वाली चीजों के सेवन से क्रिएटिनिन का स्तर बढ़ सकता है। विशेष रूप से रेड मीट जैसे प्रोटीन के स्रोत क्रिएटिनिन को बढ़ाने वाले माने जाते हैं। जो लोग रेड मीट या डेयरी उत्पादों सहित अन्य प्रोटीन स्रोतों का अधिक सेवन करते हैं उनमें क्रिएटिनिन का स्तर बढ़ सकता है। इसे कंट्रोल में रखने के लिए प्रोटीन का संयमित मात्रा में सेवन करें।

आहार में फाइबर की मात्रा
फाइबर की बढ़ाएं मात्रा

क्रिएटिनिन के स्तर को कंट्रोल करने के लिए आहार में फाइबर की मात्रा बढ़ाने से लाभ मिल सकता है। अध्ययन में पाया गया कि जिन लोगों ने आहार में फाइबर की मात्रा को बढ़ाया, ऐसे क्रोनिक किडनी डिजीज वाले रोगियों क्रिएटिनिन के स्तर में महत्वपूर्ण सुधार आया। फाइबर कई खाद्य पदार्थों में पाए जाते हैं। फल-सब्जियां, साबुत अनाज और नट्स के सेवन से आप लाभ पा सकते हैं।

धूम्रपान से होने वाले नुकसान
धूम्रपान और अल्कोहल से बचें

सिगरेट पीने से शरीर को कई तरह से नुकसान हो सकता है, इससे क्रोनिक किडनी रोग का खतरा भी बढ़ सकता है। इसी तरह से किडनी को स्वस्थ रखने के लिए शराब से भी दूरी बनाकर रखने की सलाह दी जाती है। शोध से पता चला है कि शराब से दूरी बनाकर क्रोनिक किडनी रोग के खतरे को कम करने में मदद मिल सकती है। धूम्रपान और अल्कोहल, ब्लड में क्रिएटिनिन के स्तर को बढ़ाने वाले हो सकते हैं।

रक्त वाहिकाओं के विकार

रक्त वाहिकाओं को मजबूत रखने के लिए बहुत लाभकारी हैं ये तीन चीजें, ब्लड प्रेशर भी रहेगा कंट्रोल (Amar Ujala: 20240213)

<https://www.amarujala.com/photo-gallery/lifestyle/fitness/foods-good-for-blood-vessels-what-to-eat-to-keep-vessels-healthy-and-stronger-2024-02-12?pageId=5>

शरीर में रक्त के संचार को व्यवस्थित बनाए रखने के लिए रक्त वाहिकाओं का स्वस्थ और मजबूत रहना बहुत जरूरी माना जाता है। वाहिकाओं में कमजोरी या फिर इसमें होने वाले जमाव के कारण रक्त का संचार प्रभावित हो सकता है, जो कई प्रकार की समस्याओं का कारण बन सकती है। स्वास्थ्य विशेषज्ञ कहते हैं, आहार और लाइफस्टाइल की कई गड़बड़ आदतों के कारण वाहिकाओं से संबंधित समस्याओं को खतरा बढ़ता जा रहा है।

शोध बताते हैं कि आहार में कुछ चीजों को शामिल करके रक्त वाहिकाओं के विकारों को कम करने और इसे मजबूत बनाने में लाभ मिल सकता है। आइए ऐसी ही कुछ चीजों के बारे में जानते हैं, जिन्हें दैनिक आहार का हिस्सा बनाकर आप कई प्रकार के स्वास्थ्य लाभ प्राप्त कर सकते हैं।

रक्त वाहिकाओं को कैसे मजबूत करें
रक्त वाहिकाओं को मजबूत बनाने वाले आहार

आप जो कुछ भी खाते हैं उसका आपके समग्र स्वास्थ्य पर प्रभाव पड़ता है। शोधकर्ताओं ने पाया कि एल्कलाइन बेस्ड डाइट के सेवन से आपको विशेष लाभ मिल सकता है। ये खाद्य पदार्थ आपको बीमारियों से बचाने, हृदय स्वास्थ्य में सुधार करने और रक्तचाप को कम करने में भी लाभकारी हैं।

रक्त वाहिकाओं में जमाव को कम करने और इसको चौड़ा करके रक्त के प्रवाह को ठीक बनाए रखने में भी एल्कलाइन से भरपूर चीजों के सेवन से लाभ पाया जा सकता है। अधिकांश फल और सब्जियां, सोयाबीन और टोफू, कुछ सूखे मेवे, सीड्स में इसकी भरपूर मात्रा होती है।

चुकंदर खाने से होने वाले फायदे
चुकंदर खाने के फायदे

रक्त वाहिकाओं को स्वस्थ और मजबूत बनाने के लिए कुछ और चीजों जैसे चुकंदर को आहार में शामिल करके भी लाभ पाया जा सकता है। यह जड़ वाली सब्जी नाइट्रेट से भरपूर होती है, जिसे आपका शरीर नाइट्रिक ऑक्साइड में बदल देता है। नाइट्रिक ऑक्साइड आपकी रक्त वाहिकाओं को प्राकृतिक रूप से ढीला करने और रक्त के प्रवाह को बेहतर बनाने में मदद करता है। शोधकर्ताओं ने पाया है कि चुकंदर के सेवन से आपके सिस्टोलिक ब्लड प्रेशर को भी कम करने में मदद मिल सकती है।

लाल मिर्च के लाभ
लाल मिर्च को भी बनाएं आहार का हिस्सा

लाल मिर्च को वैसे तो कम खाना चाहिए पर अगर संयमित मात्रा में इसका सेवन किया जाए तो शरीर को इससे कई प्रकार के लाभ हो सकते हैं। लाल मिर्च में कैप्साइसिन नामक यौगिक होती है जो आपकी धमनियों को अच्छी तरह से काम करने में मदद कर सकती है। यह आपकी रक्त वाहिकाओं में मांसपेशियों को आराम देने में भी मददगार है जिससे रक्त आसानी से प्रवाहित हो सके। संयमित मात्रा में इसका सेवन करने से ब्लड प्रेशर की दिक्कतों को भी कम किया जा सकता है।

बहुत लाभकारी हैं फैटी फिश
मछलियां हैं बहुत लाभकारी

यदि आपके मन में सवाल उठता है कि मछलियां क्यों इतनी फायदेमंद मानी जाती हैं, तो इसका एक कारण इससे वाहिकाओं को होने वाला लाभ भी है। सैल्मन, मैकेरल जैसी फैटी मछलियां ओमेगा-3 फैटी एसिड से भरपूर होती हैं। अध्ययनों से पता चलता है कि ये यौगिक आपके परिसंचरण को ठीक रखने में मददगार हैं। मछली खाने से न केवल आपका रेस्टिंग ब्लड प्रेशर कम होता है, साथ ही ये आपकी धमनियों को साफ रखने और किसी प्रकार के जमाव को कम करने में भी सहायक है।

Lung Disease

Genetic malfunction causes rare lung disease? Study finds defective cell function that was previously unknown (Hindustan Times: 20240213)

<https://www.hindustantimes.com/lifestyle/health/genetic-malfunction-causes-rare-lung-disease-study-finds-defective-cell-function-that-was-previously-unknown-101707720463483.html>

Researchers from Rockefeller University, other institutions have discovered hereditary illness that causes defective cell function that was previously unknown.

One of the most significant cells in the body is the macrophage. This immune cell, dubbed "big eater" in Greek, eats and breaks down dangerous substances like dust, debris, bacteria, and cancer cells. Macrophages play a particularly important role in the lungs, where they combat bacterial infections and remove excess surfactant, a lipid- and protein-rich covering that is essential for lung health but can accumulate sticky matter if left unchecked.

The study found that the children are missing half of their alveolar macrophages, which are located in the air sacs of the lungs.

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By noticing an unexpected link between a particular subset of sick kids, the researchers were able to make their breakthrough. These nine youngsters had fought lifelong battles with life-threatening conditions such as progressive polycystic lung disease, pulmonary alveolar proteinosis (PAP), and recurring viral and bacterial infections that frequently left their lungs riddled with cysts and left them gasping for air.

But as genomic data revealed, the children shared another characteristic: the absence of a chemical receptor that is supposed to call alveolar macrophages into action. It's the first time that this missing receptor, called CCR2, has been linked to disease. The researchers, including Rockefeller's Jean-Laurent Casanova and Institut Imagine's Anna-Lena Neehus, recently published their results in Cell.

The study also found that the children are missing half of their alveolar macrophages, which are located in the air sacs of the lungs.

"It was surprising to find that CCR2 is so essential for alveolar macrophages to properly function," said Casanova. "When it comes to lung defense and clean-up, people without it are operating at a double loss."

More formally known as C-C motif chemokine receptor 2, CCR2 sits on the surface of alveolar macrophages, a kind of monocyte (or white blood cell). It responds to the presence of a chemical ligand, or binding molecule, known as CCL-2, which is also expressed by monocytes.

The receptor and ligand work together to summon macrophages to the site of an infection, and to maintain the appropriate level of surfactant; too little can lead to collapsed lung tissue, and too much can result in narrowed airways.

It was among these immune cells that first author Neehus, of Casanova's lab at the Institut Imagine in Paris, was seeking evidence of genetic deficiencies that might alter their behaviour. While combing through the genomic data on 15,000 patients in a database, she found two Algerian sisters, then aged 13 and 10, who'd been diagnosed with severe PAP, a syndrome in which surfactant builds up and the gas exchange that takes place in alveoli is hindered.

About 90 per cent of PAP cases are caused by antibodies that cripple a protein that stimulates the growth of infection-fighting white blood cells. The girls, however, didn't have the PAP autoantibodies. Instead, they had no CCR2--a newly identified genetic mutation. Perhaps its lack was connected to their pulmonary conditions, Neehus thought. "It looked interesting and promising," she recalled.

She soon found seven other children in the cohort who had the same CCR2 mutation and serious lung conditions: two more pairs of siblings, and one trio of siblings. They were from the United States and Iran.

To explore the impact the variant might have on the children, the researchers analysed the children's clinical histories, lung tissue samples, and genetic data.

Several key findings emerged. "First we discovered that these patients have only half the normal counts of pulmonary alveolar macrophages, which explains the different types of lesions they have across the pulmonary tissues," says Casanova. With only half a crew, the reduced clean-up unit couldn't keep up with its workload, leading to tissue injury.

The macrophages were otherwise normal, as were the children's other immune cells. Without CCR2 signalling, monocytes have no idea where they're needed. In the study, a live-imaging analysis of the monocytes from the lungs of a 10-year-old girl with CCR2 deficiency showed the cells milling about aimlessly, unsure where to go. (See gif at top.) In contrast, live imaging of monocytes from a healthy control patient shows them migrating in the same direction, summoned by the teamwork of CCR2 and CCL-2.

This directionlessness also makes those with a CCR2 deficiency more susceptible to mycobacterial infections, because the macrophages can't find their way to the tissue clusters where mycobacteria take up residence, and thus digest the invaders.

This had dire effects for three of the children in the study, who developed bacterial infections after being vaccinated with a live-attenuated substrain of *Mycobacterium bovis*, an agent of tuberculosis. Their immune systems failed to assemble a legion of macrophages at the vaccination site in the shoulder, causing tissue destruction or hard nodes that had to be surgically removed, or lymph node infections. (All of the children were effectively treated with antibiotics.)

The children inherited the deficiency from their parents--and yet their parents were healthy. "Each of the parents carries one disease copy of the gene, and both parents gave the affected copy to their children," said Neehus. "The parents aren't affected because they each only have one copy, whereas the kids have two."

Several children were the result of consanguineous marriages, in which the parents are related. The offspring of such pairings have a higher risk of inheriting the mutation that causes CCR2 to disappear.

Gender Equity and Equality **A global alliance to bridge the gender equity gap (The Hindu: 20240213)**

<https://www.thehindu.com/opinion/op-ed/a-global-alliance-to-bridge-the-gender-equity-gap/article67838843.ece>

India's launch of the Alliance for Global Good – Gender Equity and Equality is a step towards enabling 'equity' and 'equality'

'Global leaders are now acknowledging the success of these initiatives and learning from India's success stories'

Equality and inclusion are the cornerstones of India's development journey. The New Delhi Leaders' Declaration, which was adopted at the G-20 under India's presidency, is testament to this commitment. By prioritising inclusion at the centre of focus areas such as socio-economic empowerment, bridging the digital divide, driving climate action, ensuring food security, nutrition, health, and well-being, among others, the declaration underlines the need for advocating a growth agenda that is driven by women-led development.

At the World Economic Forum in January this year, India took the mission for gender equity several steps ahead with the launch of the 'Alliance for Global Good – Gender Equity and Equality'. This multi-stakeholder initiative has placed India centre stage for accelerating the socio-economic cause as it will have a sustained global impact. With the Alliance, India has managed to transition the two buzzwords, equity and equality, to the working agendas of stakeholders around the world.

Physical activity

Physical activity may reduce pain intensity for cancer survivors: Study (New Kerala: 20240213)

<https://www.newkerala.com/news/2024/9180.htm>

People who have had cancer often experience ongoing pain, but a new study reveals that being physically active may help lessen its intensity, according to a study.

Although physical activity has been shown to lessen various types of pain, its effects on cancer-related pain are unclear.

The study, published online in the journal *CANCER*, shows that higher levels of physical activity are linked with less pain, and to a similar extent in adults with and without a history of cancer.

“It may feel counterintuitive to some, but physical activity is an effective, non-pharmacological option for reducing many types of pain. As our study suggests, this may include pain associated with cancer and its treatments,” said Dr. Erika Rees-Punia, from the Department of Population Science, American Cancer Society, in Georgia.

For the study, a team from the American Cancer Society, US and University of Melbourne in Australia, analysed information pertaining to 51,439 adults without a history of cancer and 10,651 adults with a past cancer diagnosis.

Participants were asked, “How would you rate your pain on average,” with responses ranging from 0 (no pain) to 10 (worst pain imaginable). Participants were also asked about their usual physical activity.

The results showed that for individuals who had cancer in the past as well as for those without a history of cancer, more physical activity was linked with lower pain intensity.

The extent of the association was similar for both groups of individuals, indicating that exercise may reduce cancer-related pain just as it does for other types of pain that have been studied in the past.

Among participants with a past cancer diagnosis, those exceeding physical activity guidelines were 16 per cent less likely to report moderate-to-severe pain compared to those who failed to meet physical activity guidelines.

Also, compared with people who remained inactive, those who were consistently active or became active in older adulthood reported less pain.

Respiratory infection

Coughs lasting over 8 weeks post infection must not be ignored: Study (New Kerala: 20240213)

<https://www.newkerala.com/news/2024/9152.htm>

Coughing after a respiratory infection is common and, in most cases, will resolve with time - within eight weeks, according to researchers.

The team from the University of British Columbia in Canada said that coughs lasting longer than eight weeks need further assessment.

"Reassuring patients that post-infectious cough is time-limited and self-resolving is important and can reduce unnecessary and costly prescriptions, such as asthma puffers or antibiotics," said Dr. Kevin Liang, a family physician and clinical instructor in the Department of Family Practice at the University.

"Most postinfectious cough symptoms will improve without medication," Liang said.

In an article published in the Canadian Medical Association Journal, the researchers described that post-infectious coughs are common, affecting about 11 per cent to 25 per cent of adults after a respiratory infection and can last up to eight weeks.

Diagnosis requires an earlier respiratory infection and exclusion of other postinfectious cough mimics, such as asthma and chronic obstructive pulmonary disease. However, one must check for red flags like swallowing difficulty, excessive shortness of breath, and coughing up blood.

These may require investigation.

Red flags also include a history of recurrent pneumonia or an extended history of smoking, and coughs lasting longer than eight weeks need further assessment, the researchers said. Further, the team said that "there is no good evidence for a medication that works to stop post-infectious cough".

Evidence shows little benefit with inhalers or oral medications to treat a cough. These medications can be quite costly and cause unwanted side effects as well.

"Patient reassurance and education are critical. Clinicians should advise patients to arrange a follow-up appointment for further investigation if their cough has not resolved within eight weeks or if new symptoms appear," the researchers said.

Epilepsy 1.5 mn women of reproductive age in India affected by epilepsy: Experts (New Kerala: 20240213)

<https://www.newkerala.com/news/2024/9146.htm>

The staggering number of nearly 1.5 million women of reproductive age in India grappling with epilepsy highlights a critical need for tailored care and support, said experts on International Epilepsy Day on Monday.

World Epilepsy Day is observed every year on February 12 to raise awareness and timely intervention for people suffering from the neurological disorder characterised by recurrent seizures.

The disease affects approximately 50 million individuals worldwide, with a significant portion residing in India, where 10-12 million people are affected.

Social stigma and reluctance to seek medical intervention often hinder women from receiving the care they need. Concerns related to reproductive health are a significant issue within the community of women with epilepsy. But experts stated that proper treatment can help women lead a normal and healthy life.

“Despite the disease prevalence, there exists a considerable treatment gap in the management of epilepsy, particularly in low-resource settings like rural areas of India. With nearly 1.5 million affected women in India, special attention must be given to women of reproductive age with epilepsy, as pregnancy poses unique challenges. Issues such as teratogenic effects from antiepileptic drugs (AEDs) and increased infertility rates are significant concerns,” said Dr. Siby Gopinath, Epileptologist and Professor of Neurology at Amrita Hospital, Kochi.

Neuroinfections, head trauma, and metabolic abnormalities significantly contribute to the burden of epilepsy in India, especially among women of reproductive age.

Children also bear a substantial impact, with the highest incidence occurring in the first year of life and peaking between ages 1 to 12. Diagnosis in children poses challenges due to various seizure imitators, necessitating evaluation by trained paediatric neurologists.

The experts said that women with epilepsy can plan pregnancies if they have been seizure-free for two years or more. Collaboration between neurologists, gynaecologists, and paediatricians is essential to manage medications during pregnancy and address any seizures promptly.

"Women with epilepsy can lead a normal life with timely and proper treatment. It is crucial to address the unique challenges faced by women, including social stigma, to ensure they receive the necessary medical attention. Women with epilepsy should plan pregnancy so that anti-epileptic medications do not harm the baby as well as the mother," Dr. AK Sahani, Director and Chief of Neurology, Indian Spinal Injuries Centre (ISIC) New Delhi, told IANS.

However, the doctor said that the ongoing medication dose can be optimally minimised to reduce the risk to the baby and prevent epilepsy in the mother.

“Otherwise, drugs can be switched over to other safer drugs for pregnancy. Women with epilepsy can go safely for pregnancy under the supervision of a neurologist and they can have normal delivery,” Dr Sahani said.

The causes of epilepsy vary, including birth defects, oxygen deprivation or hypoxic sequelae, genetics, brain infections, head injury, stroke, and brain tumours.

“Diagnosis involves a comprehensive approach, including medical history, physical examination, and various investigations like blood investigations, bedside EEG, video EEG, CT, MRI of the brain. These tests and investigations help in identifying potential causes and plan appropriate treatments. Treatment options include anti-seizure medications, with the caveat that finding the right medicine and dosage may take time,” said Dr. Amlan Mandal - Senior Consultant - Neurology, Narayana Hospital RN Tagore Hospital.

"Surgery is also considered to address underlying causes more so in drug resistant epilepsy such as removing brain tumours. Deep Brain Stimulation (DBS) may be required in cases where the origin of seizures is unclear," the doctor said.

Heart Disease

Researchers link HPV to heart disease in women (Medical News Today: 20240213)

<https://www.medicalnewstoday.com/articles/researchers-link-hpv-heart-disease-women>

High-risk forms of HPV may be a risk factor for heart disease, research suggests. About 12% of all women globally have a detectable infection of HPV, which currently has no cure.

High risk forms of HPV have been linked to an increased risk of a number of cancers. Researchers have found evidence suggesting women with a high risk strain of HPV are at a four-time higher risk of dying from cardiovascular disease. Researchers estimate about 12% of all women around the world have a detectable infection of the human papillomavirus (HPV).

HPV is considered the most common sexually transmitted infection (STI). Previous research shows HPV is the most common pathogen responsible for female cancers.

Men can also contract HPV.

There is currently no cure for HPV. The majority of people with HPV will not show symptoms and most cases go away on their own.

However, some forms of high-risk HPV

Now, researchers from the Sungkyunkwan University School of Medicine in Seoul, Korea have found evidence suggesting women with a high risk strain of HPV are at a four-time higher risk of dying from cardiovascular disease.

The study was recently published in the European Heart Journal.

How HPV and heart disease are linked

According to Dr. Seungho Ryu, professor in the Center for Cohort Studies at the Total Healthcare Center in Kangbuk Samsung Hospital at Sungkyunkwan University School of Medicine in Seoul, Korea, and co-lead author of this study, this study was inspired by growing evidence of a potential link between high risk strains of HPV and cardiovascular diseases.

“With HPV’s widespread prevalence and its established link to certain cancers, our goal was to delve into its wider health impacts, particularly its role in cardiovascular mortality,” Dr. Ryu told Medical News Today.

“This study sought to uncover new modifiable risk factors for heart disease, targeting gaps not explained by traditional risk factors such as smoking, high cholesterol, hypertension, and diabetes. Despite significant progress in managing these known risk factors, heart disease remains a leading cause of death.”

— Dr. Seungho Ryu

“Notably, conventional risk factors do not account for all cases of heart disease; approximately 20% occur in individuals without these conditions, underscoring the importance of exploring additional variable risk factors,” he said.

This is not the first study to look at a link between HPV and heart disease. A study published in June 2019 found HPV might be associated with coronary artery disease Trusted Source among women in the climacteric stage of their lives — the time encompassing perimenopause, menopause, and postmenopause.

And research published in March 2023 reported an association Trusted Source between HPV infection and cardiovascular diseases in women, however, the association was not significant among women vaccinated against HPV.

What is high risk HPV?

For this study, Dr. Ryu and his team analyzed data from more than 163,000 young or middle-aged Korean women who had no diagnosis of cardiovascular disease at the study’s start. Study participants received a number of health screening tests, including a cervical screening for 13 high risk strains of HPV.

“In our research, we focused on 13 high risk strains of HPV, including HPV 16 Trusted Source and HPV 18 Trusted Source, leveraging secondary health checkup data that encompasses tests for high risk HPV as part of cervical cancer screening,” Dr. Ryu explained. “The fundamental distinction between high risk and low risk HPV strains is their oncogenic potential.”

“High-risk HPV strains have the ability to trigger cellular changes that lead to malignancies, notably cervical cancer, by interacting with and disrupting cellular tumor suppressor proteins,” he continued. “Furthermore, high risk HPV strains, particularly HPV 16 and HPV 18, can be implicated in cardiovascular diseases.”

Dr. Ryu said that high risk HPV may increase cardiovascular disease mortality risk through mechanisms involving chronic inflammation and direct impacts on atherosclerosis.

“The presence of high risk HPV strains has been associated with systemic inflammation, a key factor in the development of atherosclerotic cardiovascular disease,” he continued. “This suggests that HPV infection could contribute to the progression of cardiovascular diseases by exacerbating inflammatory processes.”

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4 times greater risk of dying from heart disease with HPV

During the study, participants were followed for up to 17 years, during which time they periodically received health checks.

According to researchers, the cardiovascular disease death risk for young, healthy women is about 9.1 in 100,000.

When taking into account other factors known to increase heart disease risk — such as obesity, smoking, diabetes, and high blood pressure — scientists found that women with high risk HPV had a 3.91 times greater risk of having blocked arteries, a 3.74 times higher risk of dying from cardiovascular disease, and a 5.86 times increased risk of dying from a stroke compared to women who did not have a high risk HPV infection.

The researchers also reported these risks were even higher in study participants who had both a high risk HPV infection and obesity.

“Our findings found a strong association between high risk HPV infection and increased cardiovascular disease (CVD) mortality, particularly atherosclerotic cardiovascular disease. HPV is predominantly known for its role in causing cervical and other cancers, so uncovering its significant impact on cardiovascular mortality opens new avenues for understanding the systemic effects of this virus.”

— Dr. Seungho Ryu

“While our study provides significant insights into the association between high risk HPV and cardiovascular mortality, it also highlights several areas where further research is needed,” Dr. Ryu said.

“The limitations regarding the demographic focus and the lack of data on vaccination status and specific HPV genotypes point to the necessity for more comprehensive, longitudinal studies. These future studies should aim to include a broader population, including men, to fully understand the impact of HPV infection on cardiovascular health,” he added.

More diversity in study population needed

After reviewing this study, Dr. Nicole Weinberg, a board certified cardiologist at Providence Saint John’s Health Center in Santa Monica, CA, told MNT this research is part of the current

trend of examining chronic inflammation and zeroing in on what that inflammation is and how it can be treated.

“Something like HPV we know can be identified and treated in certain capacities, and so it’s pretty exciting to me as a clinical cardiologist who sees a lot of patients to know that is a source of chronic inflammation in a patient that could be identified and then possibly treated,” Dr. Weinberg said.

MNT also spoke with Dr. G. Thomas Ruiz, a board certified OB/GYN and lead OB/GYN at MemorialCare Orange Coast Medical Center in Fountain Valley, CA, who said he was highly skeptical that there is a link between HPV and cardiovascular disease.

“Based on just one study in this population, I don’t know if you can make the link to HPV and cardiovascular disease — more work has to be done,” Dr. Ruiz continued. “The study was done in Korea so it’s a homogenous population. Whenever you’re dealing with studies in a homogenous population, you want as much diversity in the study as possible, so you want to see it extended to a more of a mixed background.”

“I’d like to see them be able to replicate their data on someone with BMIs less than 30 and high risk HPV positive, [t]hat to me might be more beneficial,” he added.

Niacin

Dietary vitamin B3 may help lower death risk in nonalcoholic fatty liver disease (Medical News Today: 20240213)

<https://www.medicalnewstoday.com/articles/dietary-vitamin-b3-may-help-lower-death-risk-in-nonalcoholic-fatty-liver-disease>

Niacin, or vitamin B3, found in fish and other food items, may help reduce the risk of death in NAFLD.

Nonalcoholic fatty liver disease cases are growing, and the disease is associated with an increased risk of death from cardiovascular disease.

Up to 90% of people with obesity have nonalcoholic fatty liver disease. Obesity can also affect how vitamins are processed in the body.

Recent research has shown that increased levels of niacin, or vitamin B3, could reduce overall death rates and death from cardiovascular disease in a cohort of people with non-alcoholic fatty liver disease.

The number of people with non-alcoholic fatty liver disease has been increasing in recent years and has an estimated prevalence of 32.4% worldwide and 47.8% in the United States.

Nonalcoholic fatty liver disease (NAFLD) is a condition that starts out with an initially harmless buildup of fat in the liver. As the condition progresses, however, this buildup of fat

can cause harm to the liver, which is responsible for filtering blood and carrying out a number of crucial metabolic processes.

It can cause fibrosis, which is the formation of scar tissue, itself a form of damage. There is also a risk of nonalcoholic steatohepatitis (NASH), which occurs when the liver becomes inflamed.

Impact of niacin (B3) levels on NAFLD

A group of researchers from Sun Yat-sen University, Guangzhou, China recently published a large cohort-based study looking at the impact of niacin intake on cause of death in people with non-alcoholic fatty liver disease. The study's results appear in the journal *JAMA Network Open* [Trusted Source](#).

Data on 4,315 adults aged 20 years or older with NAFLD were extracted from the National Health and Nutrition Examination Survey [Trusted Source](#), a survey conducted by the Centers for Disease Control and Prevention (CDC) in the U.S. between 2003–2018.

Information on the diet of these individuals was deduced from data collected during the survey using a dietary interview, called “What We Eat in America.”

Researchers asked the participants to recall the types and quantities of foods they consumed in the 24 hours prior to the interview, from midnight to midnight. Almost all the participants provided two interviews. The first dietary interview was carried out in person, while the second interview was conducted by telephone 3 to 10 days after the first interview.

A total of 566 deaths were recorded during an average of an 8.8 year follow-up, of which 197 were attributed to cardiovascular disease.

Participants with the highest daily consumption of niacin — of over 26.7 milligrams (mg) — appeared to have a 30% lower risk of death from cardiovascular disease, and 35% lower risk of all-cause mortality than participants who had a daily niacin intake of 18.4 mg or lower, in their diet.

The study authors suggested their results support the notion that 20 mg a day of niacin would be helpful for people with NAFLD.

The current study did not look at whether niacin supplementation would have similar effects, as only the total amount of niacin in the diet was estimated.

The study is also limited by the fact that the calculation of niacin consumption was estimated based on dietary recall from participants, and could be inaccurate.

What foods are high in niacin (B3)?

Niacin, also known as vitamin B3, has many functions, including converting nutrients into energy, creating cholesterol and fats, DNA replication and repair pathways, and it has antioxidant effects.

It is rare for people to have a deficiency in this vitamin as it is found in many foods, including meat, fish, brown rice, bananas and fortified foods.

Research has shown that niacin can improve muscle performance in humans. Animal studies have suggested that this could be due to the fact niacin is a precursor to nicotinamide adenine dinucleotide (NAD), and nicotinamide adenine dinucleotide phosphate (NADP). These two coenzymes are essential for a number of metabolic pathways including energy metabolism and oxidation.

In terms of this vitamin's effect in NAFLD, Nichola Ludlam-Raine, registered dietitian, not involved in the current study, told Medical News Today that:

“The recent findings highlighting the potential benefits of vitamin B3 (niacin) for individuals with non-alcoholic fatty liver disease (NAFLD) underscore the critical role nutrition plays in managing obesity and obesity-related conditions. Vitamins and nutrients are key in metabolic processes, and their adequacy or deficiency can significantly impact the progression or mitigation of diseases associated with obesity, including NAFLD.”

“Vitamin B3 is known for its role in converting food into energy, repairing DNA, and reducing cholesterol levels, which could explain its beneficial effects on NAFLD. However, it's essential to approach supplementation with caution, as excessive intake can lead to adverse effects,” she cautioned.

Why is NAFLD linked with obesity?

The top risk factors for NAFLD include overweight or obesity, having an underactive thyroid, high blood pressure, high cholesterol and smoking.

Dr. Shafaq Tarar, internist and primary care physician with Medical Offices of Manhattan, not involved in the current research, told MNT that the link between obesity and NAFLD was likely due to metabolic changes.

She explained that:

“Obesity is linked to an increased likelihood of nonalcoholic fatty liver disease. The hallmark characteristic of non-alcoholic fatty liver disease, known as steatosis, occurs when the uptake of fatty acids by the liver from the bloodstream and the synthesis of new fatty acids exceeds the liver's ability to oxidize and export them as triglyceride within very low density lipoprotein.”

“Consequently,” she added, “an excessive amount of intrahepatic triglyceride indicates an imbalance in the complex interactions of metabolic processes.”

“The presence of steatosis is connected with a range of unfavorable changes in glucose, fatty acid, and lipoprotein metabolism. Abnormalities in fatty acid metabolism, along with inflammation in adipose tissue, the liver, and throughout the body, are likely key factors in the development of insulin resistance, dyslipidemia, and other cardiometabolic risk factors associated with non-alcoholic fatty liver disease,” noted Dr. Tarar.

Impact of obesity on vitamin levels

The link between obesity and NAFLD may also provide some answers as to why certain vitamins may be particularly beneficial for people with this disease.

Excess body weight and obesity have been associated with vitamin D deficiency, and the mechanisms underpinning this and the impact of this on overall health have been a topic of some investigation.

For example, the VITAL Trusted Source trial suggests that vitamin D supplementation is less effective at raising vitamin D levels in people with cancer, cardiovascular disease and type 2 diabetes if they have a higher body mass index (BMI).

This could explain why vitamin D supplementation has been observed to have lower efficacy in this group, the researchers conducting this trial have hypothesized.

Dr. Suzanne Manzi, an obesity specialist, who was not involved in that research, told MNT that other vitamins could play a role in the health of people with obesity: “People with obesity may require higher levels of certain vitamins due to several factors, including increased oxidative stress, inflammation, and potential nutrient deficiencies arising from diet quality.”

“Moreover,” she said, “the bioavailability of some vitamins may be affected by obesity, necessitating increased intake to meet the body’s needs. For instance, the fat-soluble nature of vitamin D means that its storage and release can be altered in individuals with higher body fat percentages, potentially requiring higher intake levels to maintain optimal blood concentrations.”

Ovarian Cancer

A new urine test may be able to detect ovarian cancer early (Medical News Today: 20240213)

<https://www.medicalnewstoday.com/articles/a-new-urine-test-may-be-able-to-detect-ovarian-cancer-early>

There are currently no urine tests available to screen for ovarian cancer.

Researchers at Virginia Commonwealth University are working on developing a urine-based test to detect ovarian cancer at an earlier stage.

The research team investigated the possible use of nanotechnology in analyzing certain peptides that are found in the urine of people with ovarian cancer.

Although this discovery is promising, the diagnostic process technique is still in its early stages. Scientists are working on a potential urine-based test to help detect ovarian cancer in its early stages.

The researchers from Virginia Commonwealth University published their study in the Journal of the American Chemical Society. They will also present their findings at the Biophysical Society Annual Meeting next week in Philadelphia.

The researchers' goal is for medical professionals to use this information, combined with CA-125 blood tests, transvaginal ultrasound, and family history, to provide early-stage detection, diagnosis, and treatment for ovarian cancer.

“There are no screening tests that are useful or available for ovarian cancer,” said Dr. Deanna Gerber, a gynecological oncologist at NYU Langone’s Perlmutter Cancer Center and an assistant professor of gynecology at NYU Langone Grossman School of Medicine-Long Island in New York who was not involved in the research.

“As such, the majority of ovarian cancers are diagnosed at stage three and four when they become symptomatic,” Gerber told Medical News Today. “This technology is exciting because anything that may increase our chances of detecting cancer at an earlier stage will undoubtedly improve our chance of curing more ovarian cancers.”

Peptides and ovarian cancer

There are thousands of tiny particles, called peptides, in our urine and there are specific ones that signal ovarian cancer.

Currently, the techniques commonly used are not always straightforward or cost-effective to detect the molecules connected to ovarian cancer.

The researchers worked on a new approach they say could more efficiently and accurately detect these peptides by using nanopore sensing, which has the potential to detect multiple peptides.

Nanopore sensing involves passing molecules through a tiny pore (nanopore) and measuring the changes in electrical current or other properties as the molecules move through.

The researchers identified and analyzed 13 peptides, including those derived from leucine-rich α-2 glycoprotein (LRG-1 Trusted Source), a known biomarker in the urine of people with ovarian cancer.

According to the researchers, they now know what the signatures of the peptides look like and how they can be used to detect ovarian cancer at earlier stages than current tests can.

“The science behind this is fascinating and seems very promising as a way to potentially detect ovarian cancer via urine,” Gerber said. “I think this presents some hope for our patients and cancer care providers that the scientific community is continually looking to improve outcomes for gynecologic cancers. The ultimate goal will always be to prevent cancer before it starts, but if we cannot do that, catching it early will translate directly to improved outcomes and improved survival.”

More research needed on ovarian cancer urine test

While the research has the potential to save lives, experts say there are still questions.

“Although the research is promising, it is far from prime time as a screening or diagnostic test for ovarian cancer,” said Dr. Diana Pearre, a gynecologic oncologist at The Roy and Patricia Disney Family Cancer Center at Providence Saint Joseph Medical Center in California who was not involved in the study.

“I am optimistic about this technology eventually being able to aid us in helping detect ovarian cancer. Currently, the tests we use in our workup for ovarian cancer are pelvic ultrasounds and tumor markers (a blood test),” Pearre told Medical News Today. “There is currently no urine test to help in the workup for it.”

“This is still a far away from reaching patients in clinic on a wide scale and will likely require a proof-of-concept trial to determine its sensitivity in detecting a rare disease,” she added. “However, it still provides a promising new avenue to aid in our workup of ovarian cancer if and when it becomes available to patients.”

What to know about nanotechnology

“To my knowledge, nanopore technology is not being used for the detection or treatment of illness, but it is available in a very portable format for handheld genome sequencing,” Pearre said.

Nanotechnology is not a product, but rather it is a process that uses the changes in the properties of a substance when examined at nanometer size, according to the International Institute for Nanotechnology.

It is a field not just about working with microscopic objects but about capitalizing on the unique and changing properties of nanoscale materials to create solutions to problems.

“Nanotechnology is the new frontier not only for diagnostic purposes but for therapeutic utilization as well,” said Dr. Kecia Gaither, an OB/GYN and expert in maternal fetal medicine as well as the director of Perinatal Services/Maternal Fetal Medicine at NYC Health + Hospitals/Lincoln in the Bronx. “[It] has been utilized in the diagnosis of other types of cancers, infectious entities, and dermatological issues as examples.”

“[I am] quite optimistic about its utilization in the diagnosis of ovarian cancer by what is a noninvasive simple procedure as opposed to the operative invasive methodologies commonly used now in the diagnostic cascade for ovarian cancer,” Gaither, who was not involved in the research, told Medical News Today. “I foresee there is likely to be an explosion of the use of nanotechnology for the diagnosis and treatment of other illnesses in the near future.”