



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Tuesday 20220628

कोरोना

खतरनाक हुआ कोरोना, सक्रिय मरीज एक लाख के करीब, एक दिन में 27 की मौत (Amar Ujala: 20220628)

<https://www.amarujala.com/india-news/covid19-india-corona-becomes-dangerous-active-patients-close-to-one-lakh-27-die-in-a-day?src=tlh&position=7>

बीते 24 घंटे में फिर से 11,793 नए कोरोना संक्रमित सामने आए। भले ही यह संख्या सोमवार के मुकाबले कम हो, लेकिन आंकड़े डराने वाले हैं। सोमवार को देश में 17,073 नए मामले सामने आए थे। वहीं देश में कोरोना से होने वाली कुल मौतों की संख्या बढ़कर 525047 पहुंच गई है।

कोरोना की जांच

देश में कोरोना संक्रमण खतरनाक होता जा रहा है। पिछले कुछ दिनों से दैनिक मामलों में तेजी से इजाफा हुआ है। हर दिन 10 हजार से ऊपर मामले सामने आ रहे हैं। केंद्रीय स्वास्थ्य मंत्रालय की रिपोर्ट के मुताबिक, बीते 24 घंटे में फिर से 11,793 नए कोरोना संक्रमित सामने आए। भले ही यह संख्या सोमवार के मुकाबले कम हो, लेकिन आंकड़े डराने वाले हैं। सोमवार को देश में 17,073 नए मामले सामने आए थे।

केंद्रीय स्वास्थ्य मंत्रालय के आंकड़ों के मुताबिक, देश में सक्रिय कोरोना मरीजों की संख्या में भी तेजी से इजाफा हो रहा है। देश में अब सक्रिय मरीजों की संख्या एक लाख के करीब पहुंच गई है। आज जारी हुए आंकड़ों के मुताबिक, 96,700 कोरोना मरीज उपचाराधीन हैं।

एक दिन में 27 की मौत

देश में कोरोना से होने वाली मौतों की संख्या में भी उतार-चढ़ाव जारी है। पिछले 24 घंटों में कोरोना ने देश में 27 की जान ले ली। जबकि, एक दिन पहले 21 लोगों की मौत हुई थी। अब देश में कोरोना से होने वाली कुल मौतों की संख्या बढ़कर 525047 पहुंच गई है।

ज्यादा संक्रमण के बाद भी जांच कम

विश्व स्वास्थ्य संगठन के अनुसार अगर कोरोना की दैनिक या फिर साप्ताहिक संक्रमण दर पांच फीसदी या फिर उससे अधिक होती है तो यह स्थिति चिंताजनक मानी जाती है। सोमवार को दैनिक सकारात्मकता दर 5.62 प्रतिशत दर्ज की गई थी, जबकि साप्ताहिक सकारात्मकता दर 3.39 प्रतिशत दर्ज की गई।

Corona (The Asian Age: 20220628)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=16461492>

Rise in Covid: 17,073 new cases, 21 deaths

AGE CORRESPONDENT
NEW DELHI, JUNE 27

India logged 17,073 fresh coronavirus infections, raising its tally to 4,34,07,046, while the daily positivity crossed 5 per cent after over four months. The death toll climbed to 5,25,020 with 21 fresh fatalities — six from Kerala, five from Maharashtra, four from Delhi, two each from Goa and Punjab and one each from Jammu and Kashmir and UP — were reported in the last 24 hours.

The new cases marked a sharp increase from the previous day's over 11,000 new cases. Earlier, the country's daily tally crossed the 17,000-mark on June 24 with 17,336, the highest single-day spike since February 20.

As per the health ministry data uploaded on Monday morning, the active cases increased to 94,420, comprising 0.22

per cent of the total infections. The national Covid-19 recovery rate was recorded at 98.57 per cent.

There has been an increase of 1,844 cases in the active Covid-19 case count in a span of 24 hours. The daily positivity rate was recorded at 5.62 per cent, while the weekly positivity rate stood at 3.39 per cent. The daily positivity crossed 5 per cent after a gap of 139 days.

The number of people who have recuperated from the disease surged to 4,27,87,606, while the case fatality rate was recorded at 1.21 per cent. The ministry said that over 197.11 crore doses of vaccine have been administered in the country so far under the nationwide Covid inoculation drive.

India's Covid-19 tally had crossed the 20-lakh mark on August 7, 2020, 30 lakh on August 23, 40 lakh on September 5.

सर्दी-जुकाम और फ्लू

बदलते मौसम में हो सकते हैं सर्दी-जुकाम और फ्लू के शिकार, ये उपाय आपको रखेंगे कई बीमारियों से सुरक्षित (Amar Ujala: 20220628)

<https://www.amarujala.com/photo-gallery/lifestyle/fitness/monsoon-cold-and-flu-prevention-best-home-remedies-for-seasonal-allergies>

सर्दी जुकाम की बढ़ती समस्याएं

मानसून का यह समय सेहत के लिए कई प्रकार से चुनौतीपूर्ण माना जाता है। विशेषकर मानसून का शुरुआती समय बारिश और वातावरण में आर्द्रता वाला होता है जिसके कारण कई प्रकार के वायरस और बैक्टीरिया के बढ़ने का खतरा बना रहता है। स्वास्थ्य विशेषज्ञ बताते हैं कि अन्य मौसमों की तुलना में मानसून के दौरान वायरस, बैक्टीरिया और अन्य संक्रमणों के संपर्क में आने का जोखिम दो गुना अधिक होता है।

गर्म और आर्द्र जलवायु हानिकारक सूक्ष्मजीवों को पनपने और संचरित होने के लिए आदर्श माने जाते हैं जिससे कई तरह की बीमारियों का खतरा हो सकता है। यह मौसम पेट की समस्याओं के साथ सर्दी-जुकाम और फ्लू का खतरा भी बढ़ा देता है।

स्वास्थ्य विशेषज्ञ कहते हैं, जिन लोगों की इम्युनिटी कमजोर होती है ऐसे लोगों में इस मौसम में कई तरह की स्वास्थ्य समस्याओं का जोखिम हो सकता है। ऐसे में सभी लोगों को निरंतर बचाव के उपाय करते रहने चाहिए। इसके लिए आहार की पौष्टिकता से लेकर खाद्य पदार्थों के सेवन से पहले की साफ-सफाई का विशेष ध्यान रखना आवश्यक हो जाता है। आइए जानते हैं कि सर्दी-जुकाम और फ्लू जैसी समस्याओं से बचे रहने या फिर इसके लक्षणों को कम करने के लिए किन उपायों को प्रयोग में लाया जा सकता है?

काढ़ा का सेवन करना लाभदायक

सर्दी-जुकाम और फ्लू जैसे मौसमी संक्रमण के जोखिम से बचे रहने के लिए तमाम तरह के घरेलू मसालों और औषधियों से तैयार काढ़े का सेवन करना शरीर के लिए बहुत लाभकारी हो सकता है। दालचीनी, लौंग, काली मिर्च, अदरक, तुलसी से तैयार काढ़ा न सिर्फ शरीर की रोग प्रतिरोधक क्षमता

को बढ़ाता है, साथ ही यह आपको गंभीर श्वसन रोगों और संक्रमण के खतरे से बचाने में भी सहायक हो सकता है।

रोज सुबह पिएं गर्म पानी

रोजाना गुनगुना पानी पीने को विशेषज्ञ स्वास्थ्य के लिए विशेष लाभकारी मानते हैं। यह श्वसन संक्रमण को रोकने का सबसे कारगर उपाय माना जाता है। रोज सुबह गर्म पानी पीने वाले लोगों में सर्दी-जुकाम होने का खतरा कम होता है। वजन घटाने के साथ सामान्य खांसी, सर्दी और संक्रमण को ठीक करने में भी इसे प्रभावी माना जाता है। गर्म पानी शरीर की प्रतिरोधक क्षमता को बढ़ाने के साथ पाचन में सुधार भी करता है।

हल्दी दूध के लाभ

मौसमी संक्रमण के खतरे को कम करने के लिए हल्दी दूध का सेवन भी काफी लाभकारी माना जाता है। हल्दी में एंटी-इंफ्लेमेटरी और एंटी-बैक्टीरियल गुण होते हैं। दूध में हल्दी और घी मिलाकर पीने से सर्दी और फ्लू के लक्षणों से राहत मिलती है। अधिक लाभ प्राप्त करने के लिए रात को सोने से पहले इसका सेवन करना विशेष लाभप्रद माना जाता है। हल्दी दूध शरीर की प्रतिरोधक क्षमता को बढ़ाने में सहायक है।

शहद के लाभ

शहद और काली मिर्च

मौसमी संक्रमण के कारण गले में होने वाली खराश और दर्द की समस्या को कम करने के लिए शहद और काली मिर्च का सेवन विशेष लाभप्रद माना जाता है। शहद में एंटी-बैक्टीरियल, एंटी-ऑक्सीडेंट और एंटी-इंफ्लेमेटरी गुण होते हैं। ऐसे में काली मिर्च में शहद और अदरक का रस मिलाकर इसका सेवन करने से गले की खराश दूर होती है। फ्लू के लक्षणों को कम करने में इसे बेहद फायदेमंद माना जाता है।

Male fertility

Male fertility: Doctor lists these tests for men experiencing infertility, testicular damage, erectile dysfunction (Hindustan Times: 20220628)

<https://www.hindustantimes.com/lifestyle/health/male-fertility-doctor-lists-these-tests-for-men-experiencing-infertility-or-with-testicular-damage-erectile-dysfunction-other-infections-101656394550275.html>

A man should opt for fertility testing if he has a prior medical condition or history that may cause infertility and men with testicular damage, erectile dysfunction, ones taking cancer treatment, those having mumps infection or a urinary tract surgery need to do these tests suggested by doctor

Doctor lists these male fertility tests for men experiencing infertility or with testicular damage, erectile dysfunction, cancer treatment, mumps infection, urinary tract surgery (EVG Kowaliewska)

Doctor lists these male fertility tests for men experiencing infertility or with testicular damage, erectile dysfunction, cancer treatment, mumps infection, urinary tract surgery (EVG Kowaliewska)

Fertility testing is important for even men as men experiencing infertility do not show any symptoms hence, testing is required to diagnose the cause of infertility. A man should opt for fertility testing if he has a prior medical condition or history that may cause infertility and health experts insist that men with testicular damage, erectile dysfunction, ones taking cancer treatment, those having mumps infection or a urinary tract surgery need to do the testing.

In an interview with HT Lifestyle, Dr Ritu Hinduja, Fertility Consultant at Mumbai's Nova IVF Fertility, listed some of the tests for male fertility and asserted that men having infertility need to take the tests mentioned below:

1. Medical History Assessment: The doctor will determine the cause of male infertility which can be due to accidents, illnesses, surgeries, or existing conditions that cause infertility. The doctor will also help you to deal with other lifestyle factors, including obesity.

2. Semen Analysis: This Will be helpful in knowing the sperm's shape (morphology), quantity, and quality of movement (motility).

a. Sperm concentration (quantity): Is seen by calculating the number of sperm per milliliter of semen. Sperm concentration is vital as, after ejaculation, the sperm encounters obstacles on their way to the egg. They can get stuck somewhere else in the reproductive system like up the wrong fallopian tube.

b. Sperm motility (movement): Refers to how sperm move. If a sperm is deformed that means if it has multiple heads or tails, no head or tail, improperly formed sections, or it's too big or too small and has a problem moving toward the egg or even fertilizing it. Morphology is the measure of what percentage of sperm has the proper shape, size, and structure, also known as "normal forms" (NF).

c. Semen factors: Semen volume refers to the amount of fluid that's ejaculated. Male fertility testing will help to check the pH level and chemistry of the semen. Abnormalities in semen pH or composition can indicate an infection.

3. Genetic Testing: If the sperm concentration is very low in a semen analysis, then there is a genetic cause behind infertility. This can be determined via genetic testing on the sperm samples.

4. Hormone Levels Blood Test: Male hormones, including FSH, LH, and testosterone, are vital for sperm production and sexual development, so a blood test is commonly conducted to examine hormone levels.

Dr Ritu Hinduja shared, "Medication or counselling can help improve fertility when there is erectile dysfunction or premature ejaculation. In cases of infertility, the female partner should also be examined. You can even go for ARTs after talking to a fertility consultant."

Typhoid

Typhoid: S. Typhi is more drug-resistant (The Hindu: 20220628)

<https://www.thehindu.com/sci-tech/health/typhoid-s-typhi-is-more-drug-resistant/article65563781.ece?homepage=true>

The antibiotic-resistant bacteria has spread globally nearly 200 times

The bacteria causing typhoid fever is becoming increasingly resistant to some of the most important antibiotics for human health, according to a study published in The Lancet Microbe journal.

The largest genome analysis of Salmonella Typhi (S. Typhi) also shows that resistant strains — almost all originating in South Asia — have spread to other countries nearly 200 times since 1990.

The researchers noted that typhoid fever is a global public health concern, causing 11 million infections and more than 1,00,000 deaths per year.

While it is most prevalent in South Asia — which accounts for 70% of the global disease burden — it also has significant impacts in sub-Saharan Africa, Southeast Asia, and Oceania, highlighting the need for a global response, they said.

Antibiotics can be used to successfully treat typhoid fever infections, but their effectiveness is threatened by the emergence of resistant *S. Typhi* strains. Analysis of the rise and spread of resistant *S. Typhi* has so far been limited, with most studies based on small samples.

“The speed at which highly-resistant strains of *S. Typhi* have emerged and spread in recent years is a real cause for concern, and highlights the need to urgently expand prevention measures, particularly in countries at greatest risk,” said study lead author, Jason Andrews, from Stanford University, United States.

Typhoid strain lays many low

“At the same time, the fact that resistant strains of *S. Typhi* have spread internationally so many times also underscores the need to view typhoid control, and antibiotic resistance more generally, as a global rather than local problem,” Mr. Andrews said.

In the new study, the researchers performed whole-genome sequencing on 3,489 *S. Typhi* isolates obtained from blood samples collected between 2014 and 2019 from people in Bangladesh, India, Nepal, and Pakistan with confirmed cases of typhoid fever. A collection of 4,169 *S. Typhi* samples isolated from more than 70 countries between 1905 and 2018 was also sequenced and included in the analysis.

Resistance-conferring genes in the 7,658 sequenced genomes were identified using genetic databases.

Strains were classified as multidrug-resistant (MDR) if they contained genes giving resistance to classical front-line antibiotics ampicillin, chloramphenicol, and trimethoprim/sulfamethoxazole.

Bharat Biotech’s typhoid vaccine offers 82% protection

The authors traced the presence of genes conferring resistance to macrolides and quinolones, which are among the most critically important antibiotics for human health. The analysis shows resistant *S. Typhi* strains have spread between countries at least 197 times since 1990. While these strains most often occurred within South Asia and from South Asia to Southeast Asia, East and Southern Africa, they have also been reported in the U.K., the U.S., and Canada, the researchers said.

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Immune System

Can you be immune to COVID-19 virus? (The Hindu: 20220628)

<https://indianexpress.com/article/lifestyle/health/can-you-be-immune-to-covid-19-virus-7994689/>

As US researchers study people who have completely dodged the virus despite being exposed and tested repeatedly for both the infection and antibodies, virologist Dr Gagandeep Kang says we need to identify enough uninfected, unvaccinated individuals to establish a pattern first. Only then can we have credible studies on Coronavirus resistance.

A health worker collects a swab sample of a man for Covid-19 test, at state transport bus stand, in Ahmedabad.

As the COVID-19 virus rages on, with an equally upward tick in reinfections and breakthrough infections, what's surprising researchers is how some people have completely dodged the virus even while their family members have been affected and have been in close proximity. And they tested negative for the virus as well as for antibodies. Are they asymptomatic carriers or are they blessed with a better immunity-boosting shield?

A Washington Post report quotes Jennifer Nuzzo, a professor of epidemiology at the Brown University School of Public Health, as saying that "Studying the genes and other biological traits of people who never catch the coronavirus could shed light on how the virus develops, or how it infects the human body and makes people sick. The findings could lead to better drugs and more targeted public health advice... One hypothesis could be that some individuals have fewer receptors in their noses, throats and lungs for the virus to bind to. Other possible explanations could be prior exposure to a related virus or simply being born with an immune system better suited to fighting SARS-CoV-2."

Explained |What is a 'zero-Covid' strategy?

According to the report, András Spaan, a clinical microbiologist and fellow at the Rockefeller University in New York, is leading research for genetic material responsible for Coronavirus resistance. He has already enrolled 700 participants and is screening more than 5,000 people

who have come forward as potentially immune to coronavirus infection. This group has been repeatedly tested for the infection and antibodies.

Finding people who never had a Coronavirus infection can be tricky and difficult to ascertain considering that there could be those who had an asymptomatic infection. Analysing the development, virologist Gagandeep Kang, Professor, Christian Medical College, Vellore, says, “A high level of exposure that does not result in infection does offer the opportunity to learn more about what mechanisms are involved in protection from infection, but first we need to know the level of exposure and what else was done to prevent getting infected. In other words, is this truly resistance to infection or is it prevention of exposure? If it is found that they were not infected despite reasonable exposure, we need a reasonable number of people who have not been infected despite exposure. Then we need to investigate this group of people (who should ideally be unvaccinated since vaccination will confound protection) to identify potential mechanisms that may protect them from infection (e.g. low or different receptors, immune mechanisms etc). Then, if a potential mechanism is identified we can either validate it in a larger number of uninfected individuals (ideally they will need to be unvaccinated as well) or we can try to validate in an animal model by engineering animals with the resistance mechanism and try to infect them. This will need to be repeated for each variant.”

So this is not simple. “But science has advanced a lot and if we do identify enough uninfected, unvaccinated individuals we have the opportunity to study this. It can be done in different approaches for vaccinated individuals, but it will be even more complicated,” adds Dr Kang.

Dengue (The Asian Age: 20220628)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=16461559>

134 dengue cases in city so far this year, 23 in June

New Delhi: Over 130 dengue cases have been reported in the national capital so far this year, a civic report said on Monday. Delhi recorded 23 dengue cases in January, 16 in February, 22 in March, 20 in April and 30 in May, it said, adding 23 cases were reported this month till June 25. As such, the count of dengue cases reported in the national capital this year stood at 134 till June 25. No death due to the disease have been reported so far, as per the report by the Municipal Corporation of Delhi (MCD). The count of dengue cases reported in Delhi between January 1 and June 25 last year was 34. The corresponding figure was 20 in 2020, 22 in 2019, 30 in 2018 and 55 in 2017, the report said. Cases of vector-borne diseases are usually reported between July and November, but the period may stretch till mid-December.

Sleep Disorder

Long COVID: Disrupted sleep, fatigue common months after infection (Medical News Today: 20220628)

<https://www.medicalnewstoday.com/articles/long-covid-disrupted-sleep-fatigue-common-months-after-infection>

Researchers at the Cleveland Clinic found that nearly two-thirds of people are fatigued, and about half experience sleep disruption months after an acute COVID-19 infection.

Moderate-to-severe sleep disruption is three times more common among Black people after recovering from COVID-19.

Anxiety is also linked to increased long COVID sleep disruption.

The study emphasizes the need to characterize race-specific determinants and disparities in COVID-19 survivors.

All data and statistics are based on publicly available data at the time of publication. Some information may be out of date. Visit our coronavirus hub for the most recent information on the COVID-19 pandemic.

Trouble sleeping and fatigue are among the often-reported symptoms of the condition known as “long COVID.” New research from the Cleveland Clinic in Ohio presents the findings of researchers investigating sleep issues in people who have recovered from COVID-19.

According to the research, nearly half of those who recovered from COVID-19 experience at least moderate sleep issues.

The research was presented in June at Sleep 2022, a meeting of the Associated Professional Sleep Societies, a joint venture of the American Academy of Sleep Medicine (AASM) and the Sleep Research Society (SRS).

There is a risk of developing long COVID even for the vaccinated, and researchers suggest the condition can persist for years for some people.

The researchers analyzed the experiences of 962 Cleveland Clinic ReCOVER Clinic patients between February 2021 and April 2022. The individuals filled out the sleep disturbance and fatigue questionnaire sections of the National Institutes of Health’s Patient-Reported Outcomes Measurement Information System (PROMIS).

The clinic found that its Black patients were more than three times more likely to have moderate-to-severe sleep disturbances after recovering from COVID-19.

Another factor that was associated with a higher than average incidence of sleep disturbance was anxiety.

After factoring for age, race, sex, and body mass index, the analysis concluded:

After recovery from COVID-19, 41.3% of patients reported at least moderate sleep disturbances, and 8% described severe sleep issues.

More than two-thirds of patients (67.2%) reported moderate fatigue.

Lead study author Dr. Cinthya Pena Orbea tells Sleep 2022:

“Our study suggests that the prevalence of moderate to severe sleep disturbances is high and that [the] Black race confers increased odds to suffer from moderate to severe sleep disturbances, highlighting the importance to further understand race-specific determinants of sleep disturbances in order to develop race-specific interventions.”

The abstract that includes data from February to November 2021 is published in OXFORD Academic SLEEP.

Triple the risk for Black people

Medical News Today asked Dr. Pena Orbea what might account for the higher proportion of sleep disruption among Black people. She replied:

“Understanding the potential causes underlying this association was not part of our research aims. However, it is possible that this factor may be related to a difference in healthcare access, neighborhood factors, [and the] disproportion of acute COVID-19 burden among black individuals.”

Dr. Michael Grandner, Ph.D., MTR, CBSM, FAASM, Director of the Sleep and Health Research Program at the University of Arizona and Director of the Behavioral Sleep Medicine Clinic at the Banner-University Medical Center in Tucson, Arizona, was not involved in the research. He told MNT:

“Several previous studies have shown that Black Americans are less likely to complain about their sleep than their White counterparts, but they tend to get less sleep and tend to be at higher risk of sleep disorders — especially those caused by stress and environmental factors. They are also more likely to have problems with COVID-related risk factors like cardiometabolic and lung diseases.”

Anxiety and sleep disruption

“Hundreds of studies,” said Dr. Grandner, “have characterized the strong but complex relationship between sleep and anxiety. For example, anxiety causes a condition called ‘hyperarousal’ — where you are often on alert even if there is no reason to be — and this is a common cause of sleep problems in these individuals.”

Dr. Pena Orbea noted the circular effect anxiety and lack of sleep might have on each other.

“There is a bidirectional effect,” pointed out Dr. Pena Orbea, “between sleep and mental health. Mood disorders are highly prevalent among patients with sleep disturbances. Likewise, sleep disturbances can increase the risk or exacerbate mental distress.”

Fatigue more common than sleep disruption

With more people, nearly two-thirds, reporting fatigue than reporting sleep disruption, there is some unclarity in the relationship, if any, between the two.

Dr. Pena Orbea noted, “Our next steps will be to further investigate the interplay of fatigue and mood with sleep disturbances as it relates to [the] Black race.”

“Sleep disturbance can cause fatigue,” said Dr. Grandner, “but many other things can as well. Then again, many people may have difficulties with sleep that they may not even be aware of — for example, shallow sleep — that leads them to feel less rested and more fatigued.”

Nutrition/ Diet

2-3 cups of coffee a day may reduce kidney injury risk by 23% (Medical News Today: 20220628)

<https://www.medicalnewstoday.com/articles/2-3-cups-of-coffee-a-day-may-reduce-kidney-injury-risk-by-23>

Drinking coffee has been linked to many health benefits.

Researchers have investigated the effects of coffee intake on acute kidney injury risk.

They found that drinking any amount of coffee reduces the risk of acute kidney injury but that 2-3 cups per day is most beneficial.

They say that further research is needed to understand why this link may exist.

Coffee Trusted Source contains many beneficial compounds for health, including caffeine, diterpenes, and chlorogenic acid.

Studies Trusted Source show that habitual coffee consumption is linked to the prevention of chronic and degenerative conditions, including cancer, cardiovascular disorders, diabetes, and Parkinson’s disease.

Caffeine, the most commonly studied compound in coffee, exerts positive effects on kidney function, and daily coffee consumption is linked to a lower risk of chronic kidney disease.

Although other compounds in coffee are less studied, compounds such as chlorogenic acid and trigonelline are known to reduce generalized inflammation and oxidative stress.

Knowing more about how coffee consumption affects the incidence of other kidney-related conditions could help policymakers take steps to reduce people's risk of developing progressive kidney disease.

Recently, researchers investigated the effects of coffee consumption on acute kidney injury (AKI), when the kidneys lose all or part of their function suddenly.

AKI represents a public health problem with around 0.25% of the general population experiencing AKI, which rises to 18% among individuals who are hospitalized annually.

From their analysis, the researchers found that higher coffee intake is linked to a lower risk of incident AKI.

The study was published in *Kidney International Reports*.

The most beneficial amount of coffee

For the study, the researchers used data from 14,207 adults ages 45 – 64 from the Atherosclerosis Risk in Communities (ARIC) study Trusted Source.

The researchers assessed the participants' coffee consumption during their first visit via a food frequency questionnaire. In total, they found:

27% never drank coffee

14% drank less than a cup of coffee per day

19% drank 1 cup per day

23% drank 2-3 cups per day

17% drank more than 3 cups per day

To define acute kidney injury, the researchers looked at rates of hospitalization, including an International Classification of Diseases code indicating AKI throughout a median period of 24 years follow-up. They noted 1,694 cases of incident AKI during the follow-up period.

After adjusting for demographic factors, they found that individuals who consumed any amount of coffee had an 11% lower risk of developing AKI compared to individuals who did not consume the beverage.

The researchers further noted a dose-dependent relationship between AKI and coffee intake, with those consuming 2-3 cups of coffee per day experiencing the most substantial risk reduction.

Coffee's protective effects

When asked what might explain the potential protective effects of coffee for acute kidney injury, Dr. Matthew Weir, professor of medicine and the head of the Division of Nephrology at the University of Maryland, who was not involved in the study, told Medical News Today that the study did not offer clues.

“[The researchers] provide theories, but there are numerous problems with retrospective data review, which may confound the observations and limit the validity. At least there was no evidence of harm,” said Dr. Weir.

In the study, the researchers noted their findings might be the result of bioactive compounds in coffee that improve perfusion and oxygen utilization in the kidneys.

Dr. Kalie L. Tommerdahl, assistant professor of pediatric endocrinology at the University of Colorado, and Dr. Chirag Rohit Parikh, director of the Division of Nephrology at Johns Hopkins University, who were both authors of the study, told MNT that they conducted a companion study to further understand the potential mechanisms.

“We studied ten youths aged 12 to 21 years old with type 1 diabetes and aimed to assess the effects of a confirmed 7-day course of a single daily Starbucks cold brew (325 ml, 175mg caffeine) on [various measures of renal function],” they said.

“The study included a small sample size. While it confirmed that we can effectively assess these intrarenal measures in adolescents with type 1 diabetes, we did not find any differences in [renal function] following a short course of daily coffee consumption,” they added.

The researchers concluded that they needed to further evaluate the physiological mechanisms underlying the potentially protective effects of coffee consumption in larger studies of a longer duration.

What about other caffeinated beverages?

Dr. Weir noted that the study had many limitations that the authors readily accounted for in their paper.

When asked about these limitations, Dr. Tommerdahl and Dr. Parikh said the main limitation was that they used “a food frequency questionnaire that relied on participant recollection rather than direct measurement to assess average daily coffee consumption.”

“Coffee additives such as milk, half-and-half, creamer, sugar, or sweeteners could also influence outcomes and warrant further investigation,” they added.

They pointed out that other beverages may produce similar effects.

“In addition, consumption of other caffeinated beverages such as tea or soda should also be considered a possible confounding factor. Further limitations include reliance on the

inclusion of AKI on the problem list during inpatient hospitalization and the potential for confounding effects from differences in etiologies for participant hospitalization,” they said.

Alzheimer Dementia

Dementia and sleep: What do we know about this link? (Medical News Today: 20220628)

<https://www.medicalnewstoday.com/articles/dementia-and-sleep-what-do-we-know-about-this-link>

Dementia affects at least 55 million people worldwide and the number is increasing by about 10 million every year. In part, this is because we are living longer, but dementia is not an inevitable part of aging. So, are there ways to decrease our risk of developing dementia? Much research is currently focusing on the potential role of sleep.

What is the link between dementia and certain sleep patterns?

According to the World Health Organization Trusted Source (WHO), “dementia is currently the seventh leading cause of death among all diseases and one of the major causes of disability and dependency among older people globally.”

The WHO states that around 55 million people have dementia, and by 2050 the number is likely to be almost 140 million. Between 60% and 70% of people with dementia have Alzheimer’s disease.

Dementia is primarily a disease of old age, although young-onset dementia Trusted Source — where symptoms begin before the age of 65 — accounts for about 9% Trusted Source of cases. However, dementia is not an inevitable consequence of aging.

There is a genetic component to dementia — if you have a close relative with dementia, this might increase your risk. However, several studies have shown that even those with a hereditary risk can reduce it by adopting a healthy diet, exercising regularly, and avoiding smoking and too much alcohol.

One part of a healthy lifestyle is getting enough of the right sort of sleep. And many researchers are now seeing connections between sleep and dementia, as Dr. David Merrill, geriatric psychiatrist and director of the Pacific Brain Health Center at the Pacific

Neuroscience Institute at Providence Saint John's Health Center in Santa Monica, CA, told Medical News Today.

“Sleep,” he noted, “is a factor that can either be protective or risky for cognitive health. The effects of sleep on cognitive health depend on the attributes of an individual's sleep, including the quality, quantity, frequency, and even the regularity of sleep.”

How long should we sleep for?

“It's recommended — not only for brain health, but for overall health — that people get 7 to 9 hours of quality sleep per night.”

– Dr. Percy Griffin, Alzheimer's Association director of scientific engagement

So, the optimum quantity for most people is somewhere between 7 and 9 hours, but is lack of sleep a risk factor?

Dr. Anton Porsteinsson, professor and director of the Alzheimer's Disease Care, Research and Education Program (AD-CARE) at the University of Rochester Medical Center told MNT this might be the case.

According to him, “[i]nadequate sleep duration may increase risk of dementia. This pattern holds even when you look at sleep patterns years or decades before AD becomes clinically apparent.”

So perhaps we should get more sleep? Not according to a large-cohort study from Boston University. This study found that those who regularly slept for more than 9 hours a night had double the dementia risk of those who slept between 6 and 9 hours. They also had lower brain volumes.

However, it may be that excessive sleep was a symptom of early neuronal changes rather than the cause. The researchers of this study suggest that long sleep time could be a predictor of dementia risk.

Sleep quality

The National Sleep Foundation lists four key features of quality sleep for optimum health benefits:

falling asleep within 30 minutes of going to bed

waking no more than once in the night

no more than 20 minutes awake during the night

spending at least 85% of your time in bed asleep.

“The disrupted, poor-quality sleep seen in sleep disorders leads to both acute and chronically worsening changes in the brain. Normally, a good night's sleep literally allows for repair and restoration of brain function to the levels seen at the beginning of the prior day.”

– Dr. David Merrill

Quality sleep Trusted Source includes periods of non-rapid eye movement sleep (NREM) and REM sleep. These cycle throughout the night, with the deepest sleep occurring during one of the stages of NREM sleep.

According to one study, low-frequency brain waves during the deep NREM sleep clear the brain of the Alzheimer's-related toxins beta-amyloid and tau. These low-frequency brain waves give a pulse of cerebrospinal fluid, which carries the toxins away.

If sleep is disturbed, brain waste, such as beta-amyloid and tau, may start to build up, eventually forming the plaques and tangles characteristic of Alzheimer's. Accumulation of beta-amyloid and tau may begin 10-20 years before dementia symptoms become noticeable.

Dr. Porsteinsson explained: "When you sleep, the brain 'shrinks,' which appears to open up [the] flow of cerebrospinal fluid that flushes out toxic byproducts such as [beta-amyloid] 42 and p-tau. The brain also resets its balance (homeostasis Trusted Source) during sleep. The quality of sleep and how much time you spend in deep-sleep matters here as well."

Sleep apnea and dementia

Sleep apnea affects almost 1 billion Trusted Source people worldwide, the most common form being obstructive sleep apnea (OSA). The condition interrupts breathing during sleep and often wakes a person up.

People with sleep apnea are at increased risk of several health conditions Trusted Source, such as asthma, cardiovascular problems, atrial fibrillation, and cancer. Recent studies have also suggested links between sleep apnea and dementia.

"Sleep apnea is one health condition increasingly known to be a risk factor for dementia. A person with sleep apnea stops breathing during sleep. [...] This leads to potentially dangerous drops in the nocturnal oxygenation of the brain."

– Dr. David Merrill

This hypoxia Trusted Source is thought to cause brain changes. One study found that the temporal lobes — which are vital for memory — were reduced in thickness in those with sleep apnea, a change that is also seen in people with dementia.

Another study found that the hippocampus was reduced in volume in people with sleep apnea — hippocampal atrophy is a feature of Alzheimer's disease Trusted Source.

This study also showed that two toxins — tau and beta-amyloid, which are thought to be responsible for many of the symptoms of dementia — build up in the brains of people with sleep apnea, probably because of a lack of oxygen in the blood.

Two more studies added to these findings. One Trusted Source detected raised tau levels in those with sleep apnea; the other Trusted Source found them to have amyloid plaques.

However, no study has yet proved a causative effect. And there are effective treatments for sleep apnea, as Dr. Merrill explained: “Luckily, we now have non-invasive peripheral oxygenation monitors used in-home sleep apnea tests that can detect these changes, and allow for effective treatments of OSA to restore nocturnal oxygenation.”

“The gold-standard treatment of OSA is [the] use of a continuous positive airway pressure (CPAP) device. Research studies have shown that even 4 hours per night using a CPAP device results in significantly less worsening of cognitive decline over time,” he added.

How does dementia affect sleep?

“Dementia disrupts sleep in a number of ways. Dementia is a neurodegenerative disorder, meaning that brain cells [experience] dysfunction and progressively die over time. As a person loses brain cells, the sleep centers of the brain start to [experience] dysfunction — we lose the ability to send signals to stay asleep. Oftentimes, sleep becomes fragmented or even inverted such that patients are awake all through the night, then sleep during most of the day.”

– Dr. David Merrill

A small study found that the daytime sleepiness characteristic of Alzheimer’s disease is linked to the death of key brain cells. The researchers suggested this is due to a build-up of tau protein and loss of neurons in areas of the brain that promote wakefulness.

A more recent study has also found that sleep disturbance in Alzheimer’s disease may increase the severity of symptoms. In this study, carried out in mouse cells, the researchers found that when phagocytosis of beta-amyloid plaques was interrupted, the plaques built up.

They identified a molecule — heparan — that inhibited this phagocytosis at high concentrations. Levels of heparan change throughout the day, so disturbances to circadian rhythms Trusted Source affect these levels and may account for the build-up of plaques in Alzheimer’s disease.

Cause or symptom?

The same study suggested that improving sleep might be a way of alleviating dementia symptoms, but is it possible that treating sleep disorders might help prevent dementia?

A 2019 review of studies into sleep disorders and cognitive decline tried to answer this question. It found that sleep disorders, including sleep apnea, insomnia, inadequate or overlong sleep, and sleep disturbance were linked to cognitive decline and dementia.

There was also a link between sleep disorders and beta-amyloid and tau deposition. The review concluded that sleep management might be a promising target for dementia prevention.

However, no study has yet proved a causative link — or which way the relationship acted. Did sleep problems predispose to dementia, or were sleep problems a sign of the early stages of dementia?

The relationship is still not clear, as Dr. Porsteinsson explained: “Soluble [beta-amyloid] 42 may have [a] negative impact on sleep, and sleep quality and neurodegeneration associated with dementia damages the centers that control sleep and the sleep-wake cycles. Interestingly, increased sleep need and excessive sleep in late life may also predict impending Alzheimer’s disease.”

Dr. Merrill also commented: “Dementia continues to be a disorder without a cure, and the available drug therapies are marginally effective at treating symptoms of dementia. So, it’s crucial to use all available strategies to treat sleep symptoms to alleviate dementia symptoms.”

“Unfortunately, as dementia progresses it can become increasingly challenging to have good sleep hygiene, especially in individuals who lose self-awareness about their deficits. In these cases, it’s important to have dedicated night-time caregivers, so patients can be looked after, kept safe, and allow daytime caregivers the chance to rest,” he added.

Maintaining a healthy lifestyle and ensuring you get enough quality sleep may reduce the risk of both dementia and many other health problems. But the hunt for cause and effect continues.

“More research is needed to fully understand the different characteristics of sleep and the brain, as well as the mechanisms for how sleep impacts the biology of the brain over time. We also need studies that look at sleep as an intervention for cognitive health.”

– Dr. Percy Griffin