

# Vitamin K may be helpful for people at risk of dementia



**D**ementia is a condition that affects cognitive functioning. Symptoms can include loss of memory and ability to function in a way that can interfere with quality of life. In a new study in rodents, scientists studied how vitamin K can affect older rats' cognitive abilities.

The researchers learned that the vitamin has the potential to improve cognitive abilities. As people get older, the risk of developing dementia increases. Dementia is the term given to a group of diseases, the most common of which is Alzheimer's disease, which affects millions of people.

There presently is no cure for dementia; however, some medications are available that can help with symptoms. Additionally, researchers continue looking for ways to either reduce the severity of symptoms or prevent the disease from progressing as rapidly. A new study from AlMaarefa University in Saudi Arabia indicates that vitamin K may help protect against "cognitive deterioration." The new study, which was presented at the Experimental Biology meeting on April 5th, 2022, tested giving a vitamin K supplement to rats.

According to the Alzheimer's Association, demen-

tia "is a general term for loss of memory, language, problem-solving and other thinking abilities that are severe enough to interfere with daily life." Alzheimer's disease is thought to be a result of the build-up of abnormal proteins in the brain, called amyloid plaques. These can stop the brain cells from signaling as well as they did before and damage them.

There are other types of dementia, and vascular dementia is thought to be caused by reduced blood flow to the brain, which can also damage brain cells. Per the most recent data from the Alzheimer's Association, people ages 65 and older are at the highest risk for developing Alzheimer's dementia. The association reports that 6.5 million people currently have this specific form of dementia in the United States.

Some signs and symptoms of dementia the Centers for Disease Control and Prevention (CDC) lists Trusted Source include: Forgetting the names of loved ones Having mood changes Being unable to remember old memories Struggling to complete tasks Having difficulty with communication While there is no cure for dementia, there are some medications and therapies Trusted Source that can help with symptoms, such as donepezil, galantamine, and rivastigmine.

## Children in more countries suffer mystery hepatitis

**STOCKHOLM:** Cases of hepatitis of unknown origin, first detected in UK children, have now been recorded in four more European countries and the US, the EU health agency said. The World Health Organisation said it was monitoring 84 cases of severe acute hepatitis that were reported in Britain since April 5 and said it expected more cases in the coming days. Cases have now been recorded in children in Denmark, Ireland, the Netherlands and Spain, the European Centre for Disease Prevention and Control (ECDC) said in a statement on Tuesday. Nine suspected cases have also been recorded in the US state of Alabama, it said. "Investigations are ongoing in all countries reporting cases. At present, the exact cause of hepatitis in these children remains unknown," the ECDC said. In most cases, the children did not have a fever. But some of the cases in the UK were so severe that patients had to be transferred to specialist children's liver units, while six children had liver transplants, both the WHO and ECDC have said. The infection mainly affected children aged under 10 and symptoms included jaundice, diarrhoea, vomiting and abdominal pain. The known hepatitis viruses, from A to E, have not been detected in the children, so British health authorities have examined a link to common viruses, or other possible causes like Covid-19, infections or environmental factors. For the moment, investigators suspect that the likeliest cause is an infection, the ECDC said. "No link to the COVID-19 vaccine was identified and detailed information collected through a questionnaire to cases about food, drink and personal habits failed to identify any common exposure," the ECDC said. In France "two cases of acute hepatitis whose etiology is still undetermined have been reported by the Lyon University Hospital" in children under 10 years of age and "are currently being investigated", the public health agency told AFP. "Cases of acute hepatitis of undetermined etiology in children are not rare. The occurrence of these two cases is not unexpected and does not indicate, at this stage, an excess of cases in France," the source added. Meera Chand, director of clinical and emerging infections at the UK Health Security Agency, a public health protection body, said on Friday that "normal hygiene measures" such as handwashing "help to reduce the spread of many of the infections that we are investigating".



## Cancer: Two drugs may target advanced tumors successfully



Two drugs may help treat advanced tumors, new research finds. luchschen/Getty Images Researchers have found two drugs to be safe and effective in treating individuals with advanced solid tumors.

These medications, ATR inhibitor elimusertib and PARP inhibitor AZD5305, can block key mediators behind DNA damage response (DDR).

In clinical studies, these drugs only induced "reversible and manageable" adverse side effects in some participants. An estimated 1.9 million Trusted Source new cancer cases are expected to arise and over 609,000

cancer-related deaths will occur in the United States in 2022. This amounts to 5,250 new cases and 1,670 deaths every day.

Research now suggests that a class of novel drugs may offer promise for people with advanced Trusted Source forms of cancer.

These treatments work by binding to ATR, a key component of the DNA damage response (DDR) pathway. This halts the activation of DNA damage mechanisms and the growth of tumor cells. Lead investigator Dr. Timothy Yap, associate professor of Investigational Cancer Therapeutics, presented the

findings at the American Association for Cancer Research (AACR) Annual Meeting 2022 on April 10, 2022. The DDR The human DNA is constantly susceptible to damage by normal cellular processes or exposure to external toxic agents.

Prof. Steve Jackson is the University of Cambridge Frederick James Quick and Cancer Research UK Professor of Biology and Head of Cancer Research UK Laboratories at the Wellcome Trust/Cancer Research UK Gurdon Institute. He was not involved in the current studies. In a March 2022 podcast, Prof. Jackson explains: "[The DDR is] the system that repairs most double-strand breaks that arise in human cells after radiation after certain chemotherapeutics that are using cancer. It's also needed to generate the immune system as well."

When the DDR works properly, it helps maintain the genome's integrity and staves off the development of cancer and other diseases. Dr. Osita Onugha Trusted Source is a thoracic surgeon and assistant professor of thoracic surgery at Saint John's Cancer Institute at Providence Saint John's Health Center in Santa Monica, CA. He was not involved in this research. In an interview with Medical News Today, Dr. Onugha shared that, as we age, "our DNA repair mechanisms don't work as effectively." This is why cancer typically affects older people. —

## New discovery may lead to treatments for small-cell lung cancer



**R**esearchers have discovered that the gene EP300 can both inhibit and promote small-cell lung cancer (SCLC). By manipulating the gene, the researchers were able to stop the spread of cancer in mouse models. The scientists hope that this new approach might lead to better treatments for a range of cancers. The research, which appears in the journal Science Advances, lays the groundwork for developing future cancer treatments for humans.

Living with lung cancer? Here are the facts you need Get evidence-based information and expert recommendations delivered to your inbox with our 3-day limited series. An estimated 13% of diagnosed lung cancer is SCLC. According to the National Organization for Rare Diseases, SCLC is an aggressive type of cancer "characterized by rapid, uncontrolled growth of certain cells in the lungs."

If SCLC is caught early and before it has spread, treatments can control the disease in up to 25% of cases. The authors of the recent study wanted to understand the role of EP300 gene mutations in SCLC. Medical News Today spoke with the corresponding authors of the study: Dr. Kwon-Sik Park — associate professor of microbiology, immunology, and cancer biology at the University of Virginia School of Medicine in Charlottesville. Dr. John Bushweller — professor of molecular physiology and biological physics at the University of Virginia. "The current prognosis for SCLC patients is particularly poor with only 7% of patients surviving beyond 5 years. This reflects a lack of well-validated targets for therapy and a concomitant lack of targeted agents to treat the disease," they explained. "It is critical to garner further insights as to the drivers of the disease as well as develop drugs targeting those drivers. However, relevant pre-clinical models of SCLC carrying recurrent driver mutations were scarce, precluding the study to assess the physiological role of the mutations and the therapeutic impact of restoring their normal functions. So we built pre-clinical models using genetically engineered mice and cells." By studying genetically engineered mouse models, the researchers found that EP300 — the protein that the EP300 gene codes for — can either promote or inhibit SCLC. Specifically, they found that part of the EP300 protein — known as the KIX domain — was essential for the development of SCLC. "EP300 is a multi-functional protein and loss of its histone acetyltransferase domain function — as predicted based on the mutations observed in SCLC patient tumors — drives the cancer. —AFP

## Can food be medicine? Pros and cons

**F**ood as medicine may be an emerging concept in the Western world but has existed for centuries as the cornerstone of health for many cultures around the globe. However, the role of diet and food in disease prevention and management compared to conventional medicine has been questioned. This Honest Nutrition feature explains the benefits and limitations of a "food as medicine" healthcare approach. Written by Amber Charles Alexis, MSPH, RDN on April 13, 2022 — Fact checked by Hannah Flynn This series of Special Features takes an in-depth look at the science behind some of the most debated nutrition-related topics, weighing in on the facts and debunking the myths. Daily health news, delivered Feed your curiosity with the latest in medical science by signing up for our newsletter. Enter your email Your privacy is important to us Design by Diego Sabogal. The fact that diet can impact an individual's health is well acknowledged by healthcare providers worldwide. People who have access to adequate nutrition are more likely to have strong immune systems, safer pregnancy and childbirth, lower risk of diabetes and cardiovascular disease, and they live longer. The reasons for this are myriad, complex, and not yet well understood. Some research has shown that a diet rich in added sugars, saturated and trans fats and excess sodium may induce chronic inflammation Trusted Source — an underlying risk factor in the development of heart disease, type 2 diabetes, poor gut health, and other chronic diseases. Likewise, the American Heart Association Trusted Source recently made diet and lifestyle recommendations that included a diet rich in fruits, vegetables, whole grains, legumes, low-fat dairy, and plant-based or lean animal protein to support cardiovascular health. —AFP

## Cervical cancer: Single-dose HPV vaccine 'highly effective'

**A** new, single-dose human papillomavirus vaccine may help the World Health Organization reach its goal to vaccinate 90% of 15-year-old girls against HPV by 2030. Matthew Busch for The Washington Post via Getty Images Human papillomavirus (HPV) causes cervical cancer and primarily affects people in low- and middle-income countries.

Recommendations currently suggest women and girls need multiple doses of an HPV vaccine for it to be effective. In the present study, the researchers found that a single dose of an HPV vaccine was as effective as a multi-dose vaccine.

A single-dose human papillomavirus (HPV) vaccine can be as effective as the three-dose regimen which is the current standard, a new study in Africa found. The research, published in NEJM Evidence, could help speed up the rate at that women are vaccinated against the virus, reducing its effectiveness at the level of the population. Cervical Cancer and HPV According to the World Health Organization Trusted Source (WHO), in 2020 342,000 women died due to cervical cancer. 90% of these deaths occurred in low- or middle-income countries.

HPV — and in particular its serotypes 16 and 18 — account for 50% of high-grade cervical pre-cancers. Currently, women and girls can be vaccinated against HPV, but according



to the U.S. Centers for Disease Control and Prevention Trusted Source (CDC), this requires a two- or three-dose regimen. The need for multiple doses slows down the rate at which women and girls can be vaccinated. This is particularly the case in low- or middle-income countries, where there is less infrastructure and less money to enable rapid, widespread vaccination.

Researchers have found that having more people vaccinated reduces the spread of HPV at a population level. According to WHO Assistant Director-General Dr. Princess Nothemba (Nono) Simelela, the new study's

findings may help with the goal of eliminating cervical cancer.

"I firmly believe the elimination of cervical cancer is possible," says Dr. Simelela. "In 2020 the Cervical Cancer Elimination Initiative Trusted Source was launched to address several challenges including the inequity in vaccine access. This single-dose recommendation has the potential to take us faster to our goal of having 90% of girls vaccinated by the age of 15 by 2030." A randomized, controlled trial The randomized, controlled trial involved 2,275 women and girls aged between 15 and 20. —Agencies