

# Humans spread more viruses to animals: Study

Humans frequently spread viruses to wild and domestic animals, increasing their risk of disease, finds a study, challenging the long-held theory that humans are a sink for viruses. Humans have never been considered a source of virus, and human-to-animal transmission of viruses has received far less attention, revealed an analysis of viral genomes by researchers at the University College London.

When animals catch viruses from humans, this can not only harm the animal and potentially pose a conservation threat to the species, but it may also cause new problems for humans by impacting food security if large numbers of livestock need to be culled to prevent an epidemic, as has been happening over recent years with the H5N1 bird flu strain," said lead author Cedric Tan, a doctoral student at UCL's Genetics Institute and Francis Crick Institute. "Additionally, if a virus carried by humans infects a new animal species, the virus might continue to thrive even if eradicated among

humans, or even evolve new adaptations before it winds up infecting humans again. "Understanding how and why viruses evolve to jump into different hosts across the wider tree of life may help us figure out how new viral diseases emerge in humans and animals," Tan said. For the study, published in the journal Nature Ecology and Evolution, the team used methodological tools to analyse the nearly 12 million viral genomes. Using the data, they also reconstructed the evolutionary histories and past



host jumps of viruses across 32 viral families to search for viral genomes acquired mutations during host jumps. The researchers found that "roughly twice as many host jumps were inferred to be from humans to other animals

(known as anthroponosis) rather than the other way round. This pattern was consistent throughout most viral families considered. Additionally, they found even more animal-to-animal host jumps that did not involve humans."

"We should consider humans just as one node in a vast network of hosts endlessly exchanging pathogens, rather than a sink for zoonotic bugs," said co-author Professor Francois Balloux from UCL Genetics Institute.

# Why you should not ignore joint pain, stiffness in your body

Ignoring subtle aches, joint pain, stiffness, and swelling -- the common symptoms of osteoarthritis -- can significantly affect your mobility, said health experts on Wednesday. Millions of people worldwide suffer from osteoarthritis (OA) -- the most common form of arthritis. The condition majorly affects weight-bearing joints, including the hands, knees, hips, and spine. As people age, the degenerative disease impacts mobility and daily routine due to cartilage degradation.

While there has been a significant rise in joint pain cases, a majority tend to ignore the condition calling it a part of ageing, increasing the risk of further complications, Dr. Rajeev Verma, Joint Replacement Surgeon, Manipal Hospitals, New Delhi, told IANS. "Osteoarthritis often develops gradually. Don't dismiss subtle aches and stiffness as a normal part of ageing. Early detection and intervention are crucial for managing this condition effectively and preserving your mobility," he said.



The doctor said that at early stages, pain, tenderness, and joint stiffness tend to be limited to very specific times such as early morning or after high-impact physical activities. But as the condition advances, a patient may experience pain even

when at rest or in simple household activities. "The disease remains a challenge in India because patients often approach doctors when the damage to the joint is considerably advanced. Osteoarthritis is a progressive condition, so in advanced cases, it is

often impossible to reverse the damage done without joint replacement surgery," Dr Verma said. "The primary objectives of osteoarthritis treatment options are to control symptoms and enhance joint function. This can involve taking NSAIDs and painkillers, physical therapy to improve joint strength and mobility, weight management techniques, pain injections, joint replacement surgery in extreme situations, and lifestyle changes like using assistive technology to lessen joint strain," Dr. Akhilesh

Yadav, Associate Director - Orthopaedics & Joint Replacement, Max Hospital, Vaishali, told IANS. He noted that compared to men, women are more prone to the disease, especially after menopause. To prevent or postpone the onset of osteoarthritis, one must "eat a balanced diet full of vital nutrients, manage a healthy weight, exercise frequently to strengthen muscles and increase joint flexibility, prevent joint injuries, and use good ergonomics when performing daily tasks", the doctor said.

# Winter superfoods

As the days get short and nights become long it's time for the temperatures to drop in the city. Most people get tempted to warm up their belly with rich, creamy macaroni and other junk. However, such junk can result in adverse health conditions. As per the Ayurvedic definition of good living, along with regular exercise and sleep routines, people also need to be extra careful about what they eat.



Here is a list of eight Ayurvedic superfoods loaded with nutrients, antioxidants, and immune-boosting powers that will keep the body going even in the chilling cold weather. Ghee Ancient Ayurvedic texts have treated ghee as a sacred symbol of auspiciousness, nourishment and healing. Comprising a spectrum of daily essential dietary elements (like Omega 3 and Omega 9 essential fatty acids along with Vitamin D, E, A and K), it is recognised as the satvic food that ensures the well-being and healthy development of the whole body, including that of the heart. During winters, a ghee-rich diet provides the body with the much-needed insulation from inside to tackle the weather along with infusing the body with nutrients to repair, rebuild and rejuvenate the cells for a

holistic growth. Ginger Tea For people looking for a hot beverage option in the cold wintry days, a cup of ginger brewed tea is the best option. The thermogenic properties of the powerful herb boost body metabolism and promote blood flow. This power drink is also a great fat-cutting potion; medical research across the globe has found that those who drank a ginger beverage reported less hunger and greater fullness for a few hours longer than those who did not consume ginger. Adding this medicinal spice to tea also brings down severe aches and stiffness in the body. Walnuts Walnuts are great natural snacks to munch on around the year, but during the fall season, the light roasted version of the snack with the light mist of oils and seasonings as per choice make the perfect snacks for healthy

living. Filled with the richness of alpha-linolenic acid (ALA) and omega-3 fats, walnuts become the best choice for boosting overall health, primarily of the heart. Avocado An essential ingredient of winter diets to combat the excessive levels of unwanted fats that get into the body by the means of greasy foods. The best way to have them in chilly weather is to warm them up and enjoy it with other veggies. As more than 50% of avocado comes from monounsaturated fat, it will help in considerably bringing down the bad cholesterol levels and in maintaining adequate nutrition levels for the cell to perform well. Pumpkin Soup Most people lack maintaining Vitamin A levels and especially during winters. Pumpkin is a good source of antioxidants and Vitamin A nutrition helps in reviving

and cleansing the body from within. To warm up the body and keep it healthy all winter, it is advisable to have pumpkin soup at least thrice a week. In a serving of soup, it is advised to use a third to a half cup of pumpkin puree. Underground vegetables All veggies like squashes, beets, carrots, potatoes and sweet potatoes that are under the ground all summer are the best options for the balanced diets of vata (winter) season. Loaded with the nutrition of fibre, minerals, vitamin A, vitamin C, and antioxidants these ingredients help in keeping the stomach stress-free and strong all winter. Oatmeal Oats are a great source of fibre and plant-based protein and the perfect ingredient to stop hunger cravings in the winter. Plus, the beta-glucan in oats helps in bringing down the harmful cholesterol levels to a great extent. To further increase the nutrition level add healthy toppings of almond and chia seeds. Black bean soup There's nothing like a black bean soup with toppings of cumin and chilli pepper to heat you up when things get cold. The nutrition star of the dish, black beans is a good source of iron and copper. So sipping on this soup will help the muscles in better utilising the body oxygen and boost the immune system..

# A new vision



It's still party time and you don't want your gorgeous eye make-up to be overshadowed by your spectacles. Contact lenses, however, can be inconvenient if you are using the kind that needs replacement once a month; caring for them and ensuring they don't cause infections can be a problem. Lensico, an eye care brand, recently interviewed 1800 teenagers aged between 12 and 20 and discovered that there has been a rise in the adoption of daily disposable lenses by 33% between 2016 and 2018. There was a fall in dropouts by 12% during the same period. The global eyecare market is growing at a CAGR of 3.4%, the report says, adding that the entry of daily disposable lenses in 2014 has caused a complete change in the market. The researchers found that nearly 62% of users in the survey were contact lens wearers who had been using them for the previous two years. They were referred to as 'current users'. The other 38%—referred to as 'dropouts'—included people who discarded the use of contact lenses and were relying

on spectacles. According to the study, the major reason why 73% of people surveyed had adopted daily disposable lenses was because of market awareness, a comfortable experience, better viewing, and affordability. The remaining 27% of the people belonging to the age group opted for daily disposable lenses on the ophthalmologist recommendation. The teenagers surveyed comprised 52% male current wearers and 48% of female current wearers. Nonetheless, the dropout category has a higher disparity with 67% female dropouts in comparison with 33% male dropouts. Based on the questionnaire, 38% of the current wearers responded affirmatively to 'satisfaction', 36% of them prioritised 'ease of use', and 26% of the surveyed people responded to 'comfort' of wearing daily disposable lenses, according to the release. Lensico points out that common problems and eye-diseases related to wearing contact lenses occur because of poor cleaning routines, and the use of daily disposable lenses prevent such situations.

# China leads in gouv-backed exploitation of zero-day bugs: Google report

China continues to lead the way for government-backed exploitation of zero-day vulnerabilities and the cyber espionage groups in the country exploited 12 zero-day vulnerabilities in 2023, up from seven in 2022, a Google report said on Wednesday. A zero-day bug is a vulnerability in a system or device that has been disclosed but is not yet patched. In 2023, Google observed 97 zero-day vulnerabilities exploited in-the-wild.

That's over 50 per cent more than in 2022, but still shy of 2021's record of 106, according to the report by Google's Threat Analysis Group (TAG) and cyber-security firm Mandiant. "Attackers are now shifting focus to third-party components and libraries in 2023. Zero-day vulnerabilities in third-party components and libraries were a prime attack surface in 2023, since exploiting this type of vulnerability can scale to affect more than



one product," said James Sadowski, Principal Analyst, Mandiant Intelligence. The team observed an increase in adversary exploitation of enterprise-specific technologies in 2023, with a

64 per cent increase in the total number of vulnerabilities from the previous year and a general increase in the number of enterprise vendors targeted since at least 2019. Exploitation associated with

financially motivated actors proportionally decreased last year. "Financially motivated actors accounted for 10 zero-day vulnerabilities exploited in 2023, a lower proportion of the total than what we observed in 2022," said the Google report. Organisations need to build defensive strategies that prioritise threats that are most likely to cause damage to themselves and others, it added.

# EDUCATION PLUS

## New industry trends every new fashion designer should know



Fashion has always been a hotbed for innovation — from the invention of the sewing machine to the rise of e-commerce. Like tech, fashion is forward-looking and cyclical. It's also a huge industry. But at the same time it is a challenging profession, and most designers learn early on in their careers that there are two ways to do it. Some choose to take the entrepreneurial route and launch their own brand, electing to deal with the challenges of production, marketing, and e Commerce. The latter limits the creativity and autonomy of the designer although it shields them from all the hustles of running a company. However, new trends have emerged that have combined these two approaches to entering the fashion design world. Keeping up with fashion isn't always a breeze.

Something may be in one day and the next it's out. It's also confusing to pick up on trends since fashion is personal and what's "on trend" is really all about how you style it—anything can be on trend if you pull it off well. Reading an article by someone that's fashion savvy can feel like you're reading something in a whole other language. Writers often attempt to find similarities between collections, which determine the trends for that particular season.



These are the five trends that every designer who is planning to take the entrepreneur route should know. One should have an idea whether everyone is wearing skinny jeans or something else entirely. Knowing what's on trend will let you know what the public is buying and what designers are creating.

1. Listen and practice the art of networking You can learn something from everybody, from the people in your office to those you meet at industry events. Talk to everyone and listen to what they have to say. The fashion industry may seem huge but it's actually pretty small—you never know who you could meet.
2. Empowerment of designers The increase of online users that is being experienced every day gives designers an opportunity to gain from e Commerce, however, it does not eliminate the challenges that are part and parcel of launching a new company. Some of these challenges include production and marketing. A designer can come up with a stunning design for clothes of shoes but they cannot monetize it if they do not have the money to open a manufacturing firm that will produce the products.
3. Millennial prefer to buy designer products Millennials have a robust consumer behaviour compared to the older generation. They have a taste for specialty products and also have a great influence on how fashion companies are behaving in the market. A designer who intends to succeed in today's market should take advantage of this trend and target this segment of the population.
4. Social Commerce In this modern age of information, social media is crucial for any brand. There are a good number of people who buy accessories and clothing due to social media influence. Posting content on social media and/or having an influential figure review your designs online is not enough; people want to hear the story behind the product. As an entrepreneur, you should capitalise on this phenomenon and share your story with your target audience because it will help them connect with your brand and buy it.
5. Teenagers prefer to buy designer products Teenagers have a trendy consumer behavior as compared to elder generation. They have different taste and have great influence on how fashion companies are behaving in the market. A designer who wants to succeed in the long run should take advantage of this segment of population. Teenagers are the one who are the key segment when it comes to trendy wear. They like to wear those clothes which are highly comfortable and extremely new in the market and want that the product should be entirely different, so as a fashion designer one should know about the demand of the teenagers and should know their mindset when it comes to designing of clothes.

6. Understanding texture, colour and fabric Design requires a good sense of texture, colour and fabric. For example, you'll need to know whether a garment would work best in silk chiffon or another material. You'll also need to know which combinations of colours will be most flattering on a piece of clothing. It is these differences that make a design stand out.