

# HOW DOES CORONAVIRUS SPREAD AND HOW CAN YOU PROTECT YOURSELF?

The 2019-Ncov Coronavirus Spreads From Person To Person In Close Proximity, Similar To Other Respiratory Illnesses.



RUAIRI CASEY / ALJAZEERA

More than 31,000 people worldwide have been infected by the new coronavirus, which continues to spread to more countries since it was first detected in the Chinese city of Wuhan in early December.

At least 636 people have died so far in mainland China, one more in

Hong Kong and one in the Philippines. Almost all the fatalities in China have been in Hubei province, of which Wuhan is the capital.

**How is the coronavirus spreading?**

The 2019-nCoV coronavirus spreads from person to person in close proximity, similar to other respiratory illnesses, such as the flu.

Droplets of bodily fluids - such as saliva or mucus - from an infected person are dispersed in the air or on

surfaces by coughing or sneezing.

These droplets can come into direct contact with other people or can infect those who pick them up by touching infected surfaces and then their face.

According to scientists, coughs and sneezes can travel several feet and stay suspended in the air for up to 10 minutes.

It is not yet known how long the virus can survive outside a host,

but in other viruses, the range is between a few hours or months.

Transmission is of particular concern on transport, where droplets containing the coronavirus could pass between passengers or via surfaces like plane seats and armrests.

The incubation period of the coronavirus, the length of time before symptoms appear, is between one and 14 days.

Although not yet confirmed, Chinese health authorities believe the virus can be transmitted before symptoms appear.

This would have major implications for containment measures, according to Gerard Krause, head of the Department for Epidemiology at the Helmholtz Centre for Infection.

"It's unusual for respiratory diseases transmissible even before the first symptoms have occurred," he told Al Jazeera.

"But the consequence is that if it happens then they have no public health means to sort out or to identify people at risk of transmitting, because they don't even know that they're ill yet."

**Can people be immune to the new coronavirus?**

Viruses that spread quickly usually come with lower mortality rates and vice versa.

Although the total number of deaths has risen, the current mortality rate stands at about two percent - this is lower than first feared and well below Severe Acute Respiratory Syndrome (SARS), another coronavirus that broke out between 2002 and 2003, which killed 9.6 percent of those infected.

As the virus is an entirely new strain, it is believed that there is no existing immunity in anyone it will encounter.

Some level of immunity will naturally develop over time, but this means that those with compromised immune systems, such as the elderly or sick, are most at

risk of becoming severely ill or dying from the coronavirus.

**How can people protect themselves? Are face masks useful?**

In terms of self-protection and containing the virus, experts agree that it is important to wash your hands frequently and thoroughly with soap; cover your face with a tissue or your elbow when coughing or sneezing; visit a doctor if you have symptoms; and avoid direct contact with live animals in affected areas.

While face masks are popular, scientists doubt their effectiveness against airborne viruses.

Masks may provide some protection to you and others, but because they are loose and made of permeable material, droplets can still pass through.

Some countries, such as the United Kingdom and Nigeria, have advised people travelling back from China to self-quarantine for at least two weeks.

**What is being done to stop the spread, and when will a vaccine become available?**

China has placed Wuhan and more than a dozen other cities under lockdown, affecting more than 50 million people, although this has not prevented the virus from spreading to all of China's provinces.

As the number of confirmed cases continues to rise, businesses and countries are taking increasingly drastic action.

Tens of airlines have halted flights to China, while a number of countries are evacuating their citi-

zens from Wuhan and Hubei.

Several countries have closed their borders with China, while others have banned entry to Chinese citizens.

Person-to-person transmission has been confirmed in several countries, which WHO emergency chief Michael Ryan has called a "great concern".

Even with recent advances in medical technology, it is unlikely a vaccine could be available for mass distribution within a year.

This means that public health measures to contain the spread will be crucial to contain the outbreak.

Restrictions on movement will not stop the spread of the disease entirely but will slow its progress and buy time for areas that have avoided infection to prepare. It will also limit the strain on health infrastructure by reducing the number of infections at any one time, said Krause.

**How serious is this epidemic?**

Given the response and effect, the new coronavirus is being treated as a serious concern.

The infection is now more widespread than the 2002-2003 SARS episode, which also originated in China, in terms of affected people but not deaths.

The WHO has designated the outbreak with its highest warning level, as it did for five others, including Ebola in 2014 and 2019, polio in 2014, the Zika virus in 2016 and swine flu in 2009.

## Applying For A Job? Your Facebook Profile May Be Key, Study Says

Press Trust Of India

Coming across as self-absorbed or expressing strong views on controversial topics on your Facebook profile may spurn your chances of landing a job, a study suggests.

According to the researchers from Pennsylvania State University in the US, job recruiters are less likely to select candidates who appear to be too self-involved or opinionated in their social media posts.

The study, published in the International Journal of Selection and Assessment, also found that recruiters are less likely to hire employees who post content suggestive of drug or alcohol use.

Michael Tews, an associate professor of hospitality management, noted that little is known about how much weight hiring managers give to potentially negative social media content.

The researchers investigated the effects of three potentially negative topics -- self-absorption, opinionatedness and alcohol and drug use -- on hiring managers' decision making.

They recruited 436 hiring managers from a variety of organisations, 61 per cent of whom were employed in the hospitality industry, and the remainder in companies ranging from information technology to healthcare.

The team gave participants a scenario to read in which hypothetical job candidates answered interview questions well and exhibited enthusiasm, but also appeared to be prone to job hopping.

They then asked the participants to review components of the candidates' Facebook profiles and to rate their employment suitability.



Each of the participants was randomly assigned to view one of 16 different Facebook profiles showing a male or female exhibiting self-absorption, opinionatedness, and alcohol and drug use, or not showing these traits.

After reading these profiles, the hiring managers evaluated the candidates' employment suitability by providing an assessment of person-organisation fit, and an overall candidate evaluation.

The researchers found that self-absorption negatively impacted recruiters' perceptions of candidates' employment suitability.

Self-absorption was also found to be more important than opinionatedness or drug and alcohol use in driving these negative perceptions, the researchers said.

"Social networking sites are often lamented as incubators of self-

absorption, motivating people to tell others about their every deed and thought," said Tews.

"It could be that hiring managers view individuals who are more self-absorbed and focused on their own interests to be less likely to sacrifice for the benefit of other employees and the organisation," he said.

The team also found that opinionatedness negatively affected perceptions of employment suitability.

"Social networking sites have given rise to unprecedented numbers of individuals expressing extreme and controversial ideas in a public forum," said Tews.

"People who post divisive subject matter may be viewed as more argumentative and less cooperative. Additionally, their views could run counter to those of hiring managers, which may influence managers' beliefs in candidates' qualifications for

jobs," he said.

The team found that content suggesting alcohol and drug use negatively affected hiring managers' perceptions of employment suitability, although the effect was much smaller than for self-absorption and opinionatedness.

"The social media content we showed hiring managers was fairly benign; there was no reference to binge drinking or actual drug use," said Tews.

"One possible reason for the relatively small effect alcohol and drug use content is that hiring managers may perceive the content as relatively normal," he said.

The researchers conclude that individuals should refrain from posting content on social networking sites that suggest self-absorption, opinionatedness and alcohol and drug use during the job search process.

## 'Novel Portable Lab Connects To Smartphone, Diagnoses Diseases'

Press Trust Of India

Researchers have engineered a tiny portable lab that plugs into people's phone, and connects automatically to a doctor's office through a custom app, an advance they claim may help diagnose infectious diseases, as well as mental health conditions.

The device, described in the journal Nature Microsystems & Nanoengineering, is the size of a credit card, and can diagnose diseases such as malaria, HIV, or other conditions like depression and anxiety, the study noted.

According to the researchers, including Chong Ahn from the University of Cincinnati in the US, patients put a single-use plastic lab chip into their mouth, and plug it into a slot in the device to test their saliva.

The device automatically transmits results to the patient's doctor through a custom app for nearly instant results, they said in a statement.

Ahn and his team used the smartphone device to test for malaria.

"Right now it takes several hours or even days to diagnose in a lab, even when people are showing symptoms. The disease can spread," Ahn said.

According to the study, the novel lab chip uses the tendency for liquids to adhere to a surface -- cap-



illary action -- to draw a sample down two channels called a "microchannel capillary flow assay."

One channel, the researchers said, mixes the sample with freeze-dried antibodies, which are large proteins part of the immune system that specifically target agents foreign to the body.

The other channel, they said, contains a freeze-dried luminescent material to read the results when the split samples combine again on three sensors.

"The performance is comparable to laboratory tests. The cost is cheaper. And it's user-friendly," Ahn said.

"We wanted to make it simple so anyone could use it without training or support," he added.

The study noted that the use of smartphones for the novel device's display, data transfer, source of power, storage and analysis allowed the development of a portable analyser that can be deployed for disease diagnostics directly to the point of care.

According to the researchers, the biggest advancement in the device is in the novel design of its tiny channels which naturally draw the sample through the sensors using capillary flow.

"The entire test takes place on the chip automatically. You don't have to do anything. This is the future of personal healthcare," said study co-author Shitodhi Ghosh from the University of Cincinnati.

## Living Near Highways Linked To Higher Dementia Risk

Agencies

Researchers have revealed that living near major roads or highways is linked to higher incidence of dementia, Parkinson's disease, Alzheimer's disease and multiple sclerosis (MS).

For the findings, published in the journal Environmental Health, researchers from the University of British Columbia analysed data for 678,000 adults in Metro Vancouver.

They found that living less than 50 metres from a major road or less than 150 metres from a highway is associated with a higher risk of developing neurological disorders - likely due to



increased exposure to air pollution.

"For the first time, we have confirmed a link between air pollution and traffic proximity with a higher risk of dementia, Parkinson's, Alzheimer's and MS at the population level," said study

lead author Weiran Yuchi from the University of British Columbia in Canada.

Neurological disorders, a term that describes a range of disorders, are increasingly recognised as one of the leading causes of death and disability worldwide.

Little is known about the risk factors associated with neurological disorders, the majority of which are incurable and typically worsen over time.

For the study, researchers analysed data for 678,000 adults between the ages of 45 and 84 who lived in Metro Vancouver from 1994 to 1998 and during a follow-up period from 1999 to 2003.

They estimated individual exposures to road proximity, air pollution, noise and greenness at each person's residence using postal code data.

During the follow-up period, the researchers identified 13,170 cases of non-Alzheimer's dementia, 4,201 cases of Parkinson's disease, 1,277 cases of Alzheimer's disease and 658 cases of MS.

## Online Images Reinforce Occupational Gender Stereotypes

Gender bias and stereotypes corresponding to certain occupations are prevalent on digital and social media platforms such as Twitter, says a study.

Online images of men and women in four professions - librarian, nurse, computer programmer and civil engineer - tend to represent and reinforce existing gender stereotypes, said the study published in the journal of the Association for Information Science and Technology.

Women were overrepresented as librarians and nurses and underrepresented as computer programmers and civil engineers, especially when the collection and curation of content is largely automated by an algorithm, such as on Twitter, showed the findings.

For the study, the researchers from Rutgers University in New Jersey, US, analysed search results for images of people in each



of the four occupations on four digital media platforms: Twitter, NYTimes.com, Wikipedia and Shutterstock.

They also compared the search results to the gender representation of each occupation as per the US Bureau of Labour Statistics.

"Gender bias limits the ability of people to select careers that may suit them and impedes fair practices, pay equity and equality," said

study co-author Mary Chayko, a sociologist at the School of Communication and Information.

"Understanding the prevalence and patterns of bias and stereotypes in online images is essential, and can help us challenge, and hopefully someday break, these stereotypes," Chayko added.

On platforms where individuals can generate and curate content more directly, such as the NYTimes.