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MASSIVE DEVELOPMENT

MORE ZOONOTIC DISEASES NOW DUE TO HABITAT LOSS

Covid-19, a new zoonotic disease, is believed to have originated from bats

MEERA MURUGESAN **KUALA LUMPUR** news@nst.com.my

INCE Covid-19 made its appearance, the spotlight has been thrown once again on zoonotic diseases and their impact on human health. The question is: why are we seeing an increase in zoonotic diseases now?

Zoonotic diseases are infections that can be transmitted two ways, either from animals to humans or from humans to animals (reverse zoonosis), said Universiti Teknologi Mara senior lectur-

er in pharmacology, Faculty of Pharmacy, Associate Professor Datuk Dr Vellayan Subramaniam.

He said some animals do carry harmful microorganisms such as bacteria, viruses, fungi or parasites (endo, ecto, blood parasites and tissue parasites) that can spread to hu-

Vellayan, a former Subramaniam assistant director and

head of veterinary services at Zoo to be bats. Negara and now a consultant on wildlife and exotic animals, said it's important to remember that some infected animals might not show signs of being diseased.

"A healthy animal wouldn't cause an infection. The infection to humans occurs only if the harmful microorganism is in the animal," said Dr Vellayan, a former president of the Malaysian Society of Parasitology and Tropical Medicine and the Veterinary Association Malaysia.

Zoonotic diseases are increasingly common.

The United States' Centres For Disease Control and Prevention estimated that more than six out

of every 10 known infectious diseases among humans could be spread from animals.

Additionally, three out of every four new or emerging infectious diseases in people will come from animals.

Covid-19 is a new zoonotic disease caused by a coronavirus. Coronaviruses are a large group of viruses, and animals that carry this virus include hedgehogs, bats, leopard cats, civet cats, ferrets and pangolins.

But not all coronaviruses jump directly from the host animal to

Vellayan said most of the time,

when a disease is transmitted from animals to humans, there will be an intermediate host.

In the case of Covid-19, this intermediate host was suspected to be pangolins or a wild animal at the now infamous seafood market in Wuhan, China, which sold exotic animals for consump-

The original source of Covid-19 is believed

Associate Professor

Datuk Dr Vellayan

The severe acute respiratory syndrome (SARS) virus was also said to have originated from bats and jumped to civet cats before infecting humans.

As for the Nipah virus (another zoonotic infection) that once affected Malaysia, Vellayan said everyone assumed pigs were the culprit and, as such, pigs were culled in large numbers.

However, pigs were only the intermediate host. The source of the Nipah virus was also bats, he added.

Besides pigs, other animals that usually act as the intermediate host for zoonotic infections include rats, lizards, mosquitoes



Pangolins are suspected to be the intermediate host for Covid-19. FILE PIC

and cockroaches.

But why is there an increase in diseases originating from ani-

Before Covid-19, there were SARS and the Middle East Respiratory Syndrome and it's only to be expected that more will fol-

Vellayan said in the past, zoonotic diseases were rare in Malaysia because wildlife was well protected in the jungles and humans did not come into contact with these animals.

Now, with massive development and the disappearance of forests and habitats, contact between wild animals and humans is increasingly common.

"We are seeing sick wild animals encroaching on human settlements, and contact with these ill animals can cause infections in humans."

He said when animals get stressed, they start to shed or expel the harmful viruses or bacteria in their bodies.

"For example, when we catch these animals and keep them trapped for days in small cages, they get very stressed and start to expel viruses and bacteria, which can infect humans who come into contact with them."

The way wildlife is consumed also plays a role. If it's served raw or half cooked, it's very dangerous, he said.

He said Malaysia had yet to identify all potential zoonotic diseases that can arise from its wildlife, but some local universities are working on this area with the Health Ministry, Veterinary Services Department and the Wildlife Department.

"For example, in those days, we knew of only four types of malaria. Now, we have a fifth type, called monkey malaria.

"If people get infected by it, which happens when a mosquito bites an infected monkey and then bites a human, it can be difficult to diagnose."

more research and documentation to be done on zoonotic diseases given their impact on human health.

He said Malaysians will not get Covid-19 from their pets, but infected people can transmit the infection to companion and farm animals.

However, no such case has been recorded in Malaysia.

He said given the pandemic, it's crucial that those handling animals, whether at zoos, animal shelters, farms or those working with wild animals, get themselves checked and practise preventive measures at work.

This includes washing their hands and changing their clothing after coming into contact with animals.

Zoos should be thoroughly cleaned and the animals checked regularly to ensure they are healthy.

He said zoo workers, staff and farm workers must be screened Vellayan said it's crucial for for Covid-19 as they may spread

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ZOONOTIC DISEASES

GLOBALLY



One billion cases and millions of deaths every year.

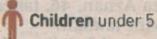


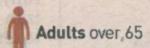
60 per cent of emerging infectious diseases are zoonoses.



In the last three decades, of the over 30 new human pathogens detected, 75 per cent were from animals.

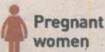
MOST AT RISK







Those with weakened immune systems



SYMPTOMS

Range from mild to severe, or fatal

TRANSMISSION



Direct contact: with saliva, urine or faeces of infected animals



Indirect contact: being in areas where infected animals live or roam. Touching something contaminated by an infected animal



Through bites or scratches from infected animals



Through food: consuming contaminated animal food products, inadequate cooking of these products or improper food



Some diseases that originate in animals are transmitted to humans through a vector such as mosquitoes or ticks

COMMON ZOONOTIC DISEASES

human to human. Major outbreak in West Africa in 2014.



SEVERE ACUTE RESPIRATORY SYNDROME (SARS)

Virus was identified in 2003. Thought to have originated from 26 countries with more than 8000 cases in 2003.



AVIAN INFLUENZA

animals. First outbreak was reported in Hong Kong in 1997 among those handling infected poultry.



MIDDLE EAST RESPIRATORY SYNDROME (MERS)

2012. Most likely from an animal source, possibly camels.



RABIES

dogs, cats, skunks and raccoons.



ANTHRAX

A bacterial infection which affects domestic and wild animals. Humans get infected when they breathe anthrax spores, or when spores get into a cut or scrape in the skin.

Sources: www.cdc.gov, www.healthline.com, who.int, medicalnewstoday.com

ecosystems, which have increased the exposure of humans and domestic animals to wildlife," she said. trafficking of wildlife for pets and food is also a factor.

diseases is the loss of wildlife

habitats due to development, consumption of wildlife and hu-

man intrusions on animal

Hunting and illegal

She said when it

comes to breeding an-

imals for consump-

tion or handling

wildlife, handlers

should always keep

hands clean and wash

with soap and water.

They should also use gloves,

Personal Protective Equipment

mission of infections through

Medicine and Health Syafinaz Amin Sciences, said exam- Nordin

ples of domestic and production animals that may carry zoonotic diseases include cat- protective outerwear or other tle, pigs, camels and birds.

Professor Dr Syafinaz Amin

Nordin, Universiti Putra

Malaysia's (UPM) Medical Micro-

biology and Parasitol-

ogy Department

head, said based on

reported genomic

studies, bats could be

a source of Covid-19,

while pangolins were

another possible

source. Further study

may provide more in-

Syafinaz, a clinical microbiologist based

formation, she said.

infected.

In addition, wildlife such as and cover any cut or abrasions bats may also carry unknown or they may have to prevent transnovel diseases.

"Among the reasons for in- broken skin.

the disease to animals if they are creased outbreaks of zoonotic

at UPM's Faculty of Professor Dr