

Corona Rises, Eijkman Researcher Explains Difference in Viruses and Bacteria

The spread of the COVID-19 corona virus raises many misperceptions and questions about the virus and is likened to bacteria. Researcher at the Eijkman Frilasita Molecular Biology Institute Aisyah Yudhaputri explained that viruses are different from bacteria.

According to Sisi - Frilasita sapanana - in COVID-19 Covering Training which was held online through WhatsApp Group, although the two are different but the symptoms of the illness caused by the virus are similar. "So if you go to the doctor it cannot be distinguished between viral or bacterial infections," he said Tuesday, March 17, 2020.

The Coordinator of the Emerging Virus Research Unit at Eijkman explained that there were three main things to distinguish it, namely the size, structure and biology of viruses and bacteria that were different. Bacteria are living things. "The virus is between life and death, if scientists call it that," said Sisi.

Usually bacteria have a much bigger size and can be seen with a light microscope. Whereas viruses are smaller so they have to use more sophisticated microscopes, electron microscopes to see them.

In terms of its nature, bacteria are unicellular and biologically have ribosomal cell walls and can reproduce themselves. While the virus has no cells, and between life and death, and requires a host cell to replicate. So unlike bacteria, viruses that are parasitic cannot replicate on their own.

"And the most important thing when sick, antibiotics can only kill bacteria but can not kill viruses. This is a lot wrong, hopefully this can brighten the difference between viruses and bacteria," said Sisi.

So, Sisi asserted, the virus can only live in the host cell, so it cannot live outside the cell. The key to the success of a virus itself is its simple structure and life. Because it contains only a small amount of genetic material in the form of RNA or DNA, neither can they be wrapped in protein capsules.

"Well, most viruses that are small in nanometer size, there are also big ones, he can't live outside the host cell for a long time," he said. He added, "so he must become a parasite and live in certain cells in both humans and animals to stay alive and multiply for further survival."

The graduate of the Master of Biomedical Science from Monash University, Australia, added that viruses and bacteria are included in microorganisms, others have fungi, algae and protozoa. The history of the virus begins in 1883, a micro-biologist A. Mayer conducted an experiment

that sprayed extracted diseased tobacco leaves into healthy leaves, resulting in healthy tobacco leaves becoming ill.

Ten years later, Dimitri Ivanovsky discovered in 1892 that the diseased tobacco leaf was not caused by bacteria because the bacterial filter had escaped when tested in the lab. Ivanovsky apparently found the cause was creatures smaller than bacteria.

One hundred years later in 1987 M.W. Beijerinck discovered that it turns out that tobacco disease has a living body which was finally called a virus. "At that time the name contagium vivum was the first time a phrase was used to describe the virus itself," Sisi added.

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