《U.S. researchers found ideal temperature for mosquito to spr》

SAN FRANCISCO, May 4 (Xinhua) -- A group of researchers at Stanford University have found that 29 degrees Celsius, or 84 degrees Fahrenheit, is the best temperature for mosquito to spread disease.

According to a report of PLoS Neglected Tropical Diseases, when temperatures were cooler or warmer, the traits for mosquito to spread diseases, such as dengue, chikungunya and Zika, were lower.

Temperature controls several factors that underlie the time it takes for a virus to be transmittable to humans, including how long it takes for a mosquito to ingest a virus during one feeding and then be ready to inject it in a later feeding; the length of the mosquito's life cycle; and how often mosquitoes bite.

"All these traits rely on temperature, but they tend to be nonlinear," study lead author Erin Mordecai, an assistant professor of biology, was quoted as saying in a news release. "They increase to a point and then drop off."

Before this study, there was a wide range of temperature predictions from other researchers, Mordecai said. And knowing the optimal temperature for disease transmission is critical for predicting future disease rates.

"Dengue epidemics have been on the rise in the past couple decades so there's been a growing effort trying to understand why we're seeing more dengue, and what the relationship is between dengue transmission and climate," she explained.

The information can help predict how and where disease might spread with climate change, especially in countries that have lower socioeconomic levels, according to Mordecai, as "concentrated urban poverty is really where you see a lot of vector-borne disease transmission."

With the new model, researchers are expected to better predict when and where transmission of the next Zika might happen, and allow enough time to prepare for the event.

"We really want to build more predictive models that take climate information and make predictions about when and where we can invest in vector control to try to prevent epidemics," she said.