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Researchers analyze effectiveness of masks

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With Governor Greg Abbott's removal of the mask mandate in early March, people are neither required nor penalizable for not wearing one in public. However, one recent research analysis made by Texas Tech researchers has shown how having a mask on can greatly reduce the chance of spreading the coronavirus to others.

On April 1, an article was published in the International Journal of Environmental Research and Public Health by Tech Professor Seshadri Ramkumar and his student assistant. The article mentioned two-thirds of the states in the nation have seen a reduction in the number of COVID-19 cases after three to four weeks with a mask mandate. Ramkumar, who is working in the Department of Environmental Toxicology, said this analysis was conducted in April 2020, a month after the pandemic was first announced in the U.S

"We conducted this research for nearly nine months, and during this time, only about 32 states issued a mask mandate," Ramkumar said.

For this research, Ramkumar and his assistant investigated the trend from before the states enacted a mask mandate, and then continue to follow it after the mandate was in effect with hopes to see a possible difference in the number of cases before and after the mandate. The result showed 66 percent of the states showed a reduction in the number of COVID-19 cases with a mask mandate active, Ramkumar said. The lowering trend for new COVID-19 cases can be easily seen over time in many states with a mandate.

"Not all states show this, but the majority of these states were able to do that," Ramkumar said. "We could see the change in 21 days, and if you continue to watch the trend after the mandate, the numbers went down. After nine months of research, we have concluded that wearing a face mask is an important measure against the virus."

Ramkumar said the result of the analysis serves as a reminder for people about the importance of wearing face masks to prevent the spread of the virus. Although vaccinations are readily available for most Texan adults now, it can be good to remember that it only helps to ward off the symptoms of the virus.

"If you are vaccinated, then you are protected after a certain period, depending on the type of vaccination," Ramkumar said, "however, the immunity does not mean that you may not carry the virus. You may be protected from the virus, but you still carry the risk of spreading the virus to other people when you talk, cough or sneeze for example."

To reach herd immunity, at least 70 to 80 percent of the population needs to be vaccinated. Even though the process is going well right now, Texas is nowhere near that number, and Ramkumar said it is important that people take precautions until we reach that point.

It is also important to note that this research analysis was done prior to 2021 when vaccines are still in testing phases and not yet readily available to the public. James Ayodeji, a doctoral student and Ramkumar's assistant in this research, said that vaccines became first available for testing since around November 2020, while the research had already been going for quite a while, meaning that the factor of vaccines did not interfere with the analysis.

"Our analysis provides data from when people are still without the vaccine," Ayodeji said. "It will still be useful now when people are already vaccinated."

The research not only focused on the number of cases the mask mandate helped lower, but also how wearing a face mask properly is crucial in warding off the virus. Ayodeji said there were exceptions in their research that does not seem to see a decrease in the number of cases despite having a mandate like California or Texas. One of the possible factors for this is that people did not have their masks covered their nose and mouth as instructed, leaving the air flow directly into them, carrying the threats of the virus.

“Wearing a mask is one thing, but wearing a mask properly is also important,” Ayodeji said. “If you don’t wear it right, you are still openly exposed to the virus as if you didn’t.”

The two researchers also mentioned masks made from cotton or materials blended from cotton can be more effective against the virus than normal face coverings. Both researchers said it is greatly important to have a mask on whenever people go outside, as well as to have an effective mask on properly.

This research was conducted when the mask mandate was still in effect in Texas. However, a decision made by Governor Abbott during March has removed this mandate entirely. In the biweekly COVID-19 news conference hosted by the City of Lubbock, Mayor Dan Pope mentioned that the city plans to keep the course and encourage people to wear a mask rather than enforcing it.

“Texas and Florida are leading the country in the way we’ve responded to this, and I see no reason to change – I doubt the leadership of our council will have any reason to change to a different direction,” Pope said.

With the research result showing the significance of wearing a mask, it can be better for people to become more aware of this analysis and decide for themselves if they want to put on a mask to protect themselves and their loved ones or not, especially when there is no requirement for it.