Fevers, Cold Sweats and Chills: For Some, The Vaccine Packs a Flu-like Punch
By Sloan Wyatt

AUSTIN-- All he felt at first was nerves — a restless hesitation intensified by rumors he'd heard before walking inside Gregory Gymnasium at the University of Texas at Austin to receive his second vaccine.

Nerves, unfortunately, would be the least of his worries. For third-year business major Alex Federbush, the Pfizer vaccine he'd receive that day would put him in the hospital for three days with side effects ranging from intense stomach pain to violent retching.

"It felt like a million small bullets being shot at my insides," he said. "I woke up in the middle of the night with this intense pain and it just wouldn't go away for hours."

Federbush is not an exception. COVID-19 vaccines have left some recipients feeling lethargic, feverish and even bed-ridden after receiving either dose. The timeline and severity of these side effects vary from person to person, with some people experiencing no side effects at all.

Regardless, the fevers, chills and sleepless nights are causing people to question what is occurring within their bodies and why. Some worry even when they experience no side effects.

Sebastian DaVioli, a second-year mechanical engineering student at the University of Texas at Austin, was caught off guard by the side effects. After receiving the first dose of the Moderna NIAID vaccine on March 29th, DaVioli went home to prepare dinner. His evening plans were soon disturbed by a sudden feeling of sluggishness that brought him to an immediate halt.

"I was in such a state of immobility that I just had to stop and lie down in the middle of it," he said. "It was a very terrible feeling."

DaVioli described spending the next few hours swaddling his cold, shaking body in blankets damp with sweat before falling asleep for 13 hours. Third-year corporate communications student Evalyn McCusker also recalled feeling persistent chills and a slight fever after her second dose of Moderna.

According to San Diego-based emergency room physician Dr. Christy Mohler, night sweats and restlessness are relatively "pleasing" signs, medically speaking. These symptoms indicate that the immune system has identified and responded to a foreign threat; this response activates inflammatory pathways known as cytokines that prompt the side effects.

Mohler was quick to clarify that not experiencing any side effects or any at all doesn't mean the vaccine is ineffective.

Medical experts believe genetic disposition to be a determining factor of a person's response to the vaccine. Still, there is not enough evidence to suggest that there is a clear trend yet.

Dr. Kristin Mondy, chief of the Division of Infectious Diseases at Dell Medical School, said adverse symptoms are commonplace with most vaccines.

Mondy explained that when patients receive their first dose, a harmless virus is injected inside them that works alongside preexisting cells to replicate a piece of the coronavirus. This coronavirus model is known as a spike protein.

It's important to note that the virus within the vaccine is not a coronavirus.

The immune system then recognizes this spike protein as a foreign substance. It initiates an immediate response to fend off the virus, one that's left DaVioli and others experiencing flu-like symptoms.

Mondy explained some people might be experiencing more severe effects after their second dose because the first dose has already primed their bodies. "It's as if you've already formed a little bit of memory," she said. "So now, when you get a second, you're priming and revving up your immune system faster."

From a clinical standpoint, Angela Winnier, a senior director of medical writing in immunology and inflammation at Pfizer, said specific demographics could be more likely to experience symptoms based on clinical trials.

"From the clinical trials, we know that the older you are, and if you're male, the less likely you're going to have side effects to the dosing."

Winnier agreed that genetic disposition might also play a role in a person's likelihood of experiencing side effects. It's just a matter of the patient's health, immune system and background.

Dr. Josh Rosenberg, critical care and infectious doctor based in Brooklyn, NY, added that patients who have already contacted COVID-19 are also more likely to have side effects because the vaccine triggers a response identical to how the body responded when it first encountered the virus.

Given the hyper-immune reaction that COVID-19 induces, medical experts attribute more severe side effects to the nature of the virus rather than the vaccine itself.

Dr. Rosenberg cautions patients from running too quickly to the medicine cabinet to relieve their pain. When asked if patients could take any preventative measures to ensure little to no side effects, he suggested an antihistamine. Still, he added that an overreliance on immunosuppressants could diminish the efficacy of the vaccine.

“The question becomes, is it worth being miserable for a little bit to make sure you don't catch a disease that could potentially kill you,” he said.

According to Winnier, the answer’s simple.

“Since the side effects of COVID-19 could be death, I'm willing to accept side effects that make me less than optimal for a couple of days. But that's my decision. Everybody has to make that on their own.”

At Pfizer, Winnier’s principal role is preparing all of the documentation about safety and effectiveness collected from clinical trials for the drug products that Pfizer develops.

In the initial clinical trials, Winnier’s team noticed that most patients had only mild symptoms like arm soreness or fatigue — all risks considered acceptable for the benefit of the virus. But, with the product now being used on a global scale, the providers must continue to gather feedback and evaluations.

Individuals should log their symptoms on the Vaccine Adverse Event Reporting System.

“All of the information goes back to the sponsor and provides them with valuable information that could impact the development of the product in the future,” she said.

Winnier said that despite her and her team’s confidence in the vaccine, she still encourages the general public to ask questions and do their research.

“These are products that aren't approved by the FDA right now; they’re emergency authorized. But, there's been significant testing done by pharmaceutical companies. We call it pharmacovigilance — watching safety reporting that's coming in,” she said. “I'm personally very confident in the vaccines so much that I even took my competitor’s vaccine because that was what was available to me.”

A recent Johnson & Johnson medical scandal, however, has thrown off medical experts' pro-vaccination crusade.

On April 13, The U.S. Food & Drug Association pulled the Johnson & Johnson vaccine from shelves until further notice after six reported cases of a rare and severe type of blood clot in individuals who received the vaccine.

Mondy expressed concern that this update will cause more people to press pause on getting vaccinated. To preface this potential concern, she said that the public should put these cases into perspective and realize that they're minor compared to the risk of COVID-19 and its complications.

Despite her reasoning, though, Mondy still encounters skeptics unwilling to budge, whether it's Johnson & Johnson-related or vaccines in general. Her answer to combating their disbelief is to lead by example.

"My colleagues and I have found that trying to change people's minds by talking to them is like telling a person who to vote for," she said. "When we try to reason and educate, people, if anything, doubles down on their views. A better way is to set an example: get vaccinated, get all of your family vaccinated, as many people who are willing to get vaccinated, just to demonstrate that it is safe."