

## **A medication for unrelated neurological and psychiatric disorders - What does it inform us?**

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For the first time, a large city welcomed a neurologist, and the community was thrilled. For three years, everything went smoothly—until an unusual incident occurred.

In the city, pharmacies took turns staying open on Sundays, which were typically holidays. On one particular Sunday, the pharmacist on duty faced an unexpected personal issue and was delayed by an hour. The pharmacy assistant informed the waiting patients, who remained patient despite the inconvenience. Their only alternative was traveling to a neighbouring city fifty kilometres away, so they decided to wait.

As time passed, some patients began chatting with one another. The conversation turned to the new neurologist and the medications they had been prescribed. Two patients noticed something strange: both had been prescribed valproic acid, but for entirely different conditions—one for headaches and the other for depression. Puzzled, they asked the others if anyone else had been prescribed the same medication. Two more people raised their hands: one had a seizure disorder, and the other had a hyperkinetic movement disorder.

The four patients were baffled. How could one medication be prescribed for such unrelated conditions? Determined to find answers, they decided to consult an educated individual in town known for his knowledge of science and mathematics. After hearing their concerns, he explained that the likelihood of the neurologist—a registered professional—lacking knowledge was negligible. He offered three insights:

1. While the four disorders appeared different, they might share a common underlying mechanism that valproic acid could address.
2. Given the complexity of the brain, the neurologist might not yet have a complete explanation for how the medication works.
3. Once we fully understand how the brain functions, we should be able to explain the mechanism behind such treatments.

Encouraged by this explanation, the patients approached the neurologist. She confirmed what the educated individual had said, adding that scientists often use such observations as opportunities to unravel the mysteries of the brain. She explained that researchers build hypotheses, test predictions, and piece together the puzzle of how the brain works. “Mother Nature provides us with many clues,” she said, “and it’s up to us to discover her secrets.”

The patients returned to the pharmacy, collected their medications, and parted ways. While they wished for more targeted treatments for their specific conditions, they left with hope. They trusted that scientists would one day uncover how a single medication could alleviate symptoms of seemingly unrelated disorders—and, ultimately, develop precise treatments tailored to individual diseases.