Why do I keep getting urinary tract infections? And why are chronic UTIs so hard to treat?

February 21 2024, by Iris Lim

Credit: Unsplash/CC0 Public Domain

Dealing with chronic urinary tract infections (UTIs) means facing more than the occasional discomfort. It's like being on a never ending

battlefield against an unseen adversary, making simple daily activities a trial.

UTIs happen when bacteria sneak into the urinary system, causing pain and frequent trips to the bathroom.

Chronic UTIs take this to the next level, coming back repeatedly or never fully going away despite treatment. Chronic UTIs are typically diagnosed when a person experiences two or more infections within six months or three or more within a year.

They can happen to anyone, but some are more prone due to their body's makeup or habits. Women are more likely to get UTIs than men, due to their shorter urethra and hormonal changes during menopause that can decrease the protective lining of the urinary tract. Sexually active people are also at greater risk, as bacteria can be transferred around the area.

Up to 60% of women will have at least one UTI in their lifetime. While effective treatments exist, about 25% of women face recurrent infections within six months. Around 20–30% of UTIs don't respond to standard antibiotic. The challenge of chronic UTIs lies in bacteria's ability to shield themselves against treatments.

Why are chronic UTIs so hard to treat?

Once thought of as straightforward infections cured by antibiotics, we now know chronic UTIs are complex. The cunning nature of the bacteria responsible for the condition allows them to hide in bladder walls, out of antibiotics' reach.

The bacteria form biofilms, a kind of protective barrier that makes them nearly impervious to standard antibiotic treatments.

This ability to evade treatment has led to a troubling increase in antibiotic resistance, a global health concern that renders some of the conventional treatments ineffective.

Antibiotics need to be advanced to keep up with evolving bacteria, in a similar way to the flu vaccine, which is updated annually to combat the latest strains of the flu virus. If we used the same flu vaccine year after year, its effectiveness would wane, just as overused antibiotics lose their power against bacteria that have adapted.

But fighting bacteria that resist antibiotics is much tougher than updating the flu vaccine. Bacteria change in ways that are harder to predict, making it more challenging to create new, effective antibiotics. It's like a never-ending game where the bacteria are always one step ahead.

Treating chronic UTIs still relies heavily on antibiotics, but doctors are getting crafty, changing up medications or prescribing low doses over a longer time to outwit the bacteria.

Doctors are also placing a greater emphasis on thorough diagnostics to accurately identify chronic UTIs from the outset. By asking detailed questions about the duration and frequency of symptoms, health-care providers can better distinguish between isolated UTI episodes and chronic conditions.

The approach to initial treatment can significantly influence the likelihood of a UTI becoming chronic. Early, targeted therapy, based on the specific bacteria causing the infection and its antibiotic sensitivity, may reduce the risk of recurrence.

For post-menopausal women, estrogen therapy has shown promise in reducing the risk of recurrent UTIs. After menopause, the decrease in estrogen levels can lead to changes in the urinary tract that makes it more

susceptible to infections. This treatment restores the balance of the vaginal and urinary tract environments, making it less likely for UTIs to occur.

Lifestyle changes, such as drinking more water and practicing good hygiene like washing hands with soap after going to the toilet and the recommended front-to-back wiping for women, also play a big role.

Some swear by cranberry juice or supplements, though researchers are still figuring out how effective these remedies truly are.

What treatments might we see in the future?

Scientists are currently working on new treatments for chronic UTIs. One promising avenue is the development of vaccines aimed at preventing UTIs altogether, much like flu shots prepare our immune system to fend off the flu.

Another new method being looked at is called phage therapy. It uses special viruses called bacteriophages that go after and kill only the bad bacteria causing UTIs, while leaving the good bacteria in our body alone. This way, it doesn't make the bacteria resistant to treatment, which is a big plus.

Researchers are also exploring the potential of probiotics. Probiotics introduce beneficial bacteria into the urinary tract to out-compete harmful pathogens. These good bacteria work by occupying space and resources in the urinary tract, making it harder for harmful pathogens to establish themselves.

Probiotics can also produce substances that inhibit the growth of harmful bacteria and enhance the body's immune response.

Chronic UTIs represent a stubborn challenge, but with a mix of current treatments and promising research, we're getting closer to a day when chronic UTIs are a thing of the past.

Provided by The Conversation