

Better tests needed for urinary tract infections

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Doctors urgently need a fast and accurate test for diagnosing urinary tract infections (UTIs) to reduce overprescribing of antibiotics, according to health researchers.

Dr. Mar Pujades Rodriguez, from the University of Leeds, argues that without access to a reliable test doctors risk prescribing unnecessary antibiotic treatments, which increase the risk of antibacterial resistance.

Current "bedside" dipstick tests to screen a urine sample for infection are inaccurate and [laboratory tests](#) are slow. NHS guidelines currently recommend laboratory testing in particular patient groups such as children and adult men.

A UTI is a relatively common problem but in some cases complications can occur when the infection spreads to cause kidney infection or sepsis.

New research from the University of Leeds looked at nearly 500,000 cases of UTIs in patients in England, treated between 2011 and 2015, from records held at 390 GP practices.

Less than one in five patients treated for a UTI had a laboratory urine test to diagnose their problem. Tests were not carried out more often in men than women, or to those who returned for a second treatment as their symptoms persisted, contrary to NHS guidelines.

Existing laboratory tests for UTIs are therefore having little impact on

the prescribing of [antibiotics](#).

The study also found that one in five patients who have to return to their doctors for a second round of treatment for a UTI are being prescribed the same antibiotic that was first given, which is not recommended practice and could increase the chance of resistance developing.

Thousands of people across England have therefore been given repeat prescriptions that have little chance of curing their infection, and may increase the risk of antibiotic resistance developing.

Published today in the journal *EClinicalMedicine* (The Lancet), the study shows that doctors require more accurate and rapid testing capabilities for UTI, and need to consider different antibiotics if a first course of treatment fails.

The study was funded by the UK's National Health Service Improvement.

Lead researcher Dr. Mar Pujades Rodriguez, from the University of Leeds Institute of Health Sciences, said: "Doctors are currently limited in their options when somebody shows signs of having a UTI, and they urgently need access to accurate rapid diagnostics tests.

"UTIs are one of the most common reasons that antibiotics are prescribed, so the potential contribution this is causing to antibiotic resistance might be very significant.

"In addition, many patients may be making things worse by taking leftover antibiotics that they have been prescribed and using them to treat other infections, or by not finishing their course of treatment."

Doctors can currently use a laboratory test to diagnose a UTI, but it takes

around two to three days to provide the results. The test is supposed to ensure that the patient actually has a UTI, and that the right antibiotic is prescribed to treat it.

However, only 17% of patients in the current study who were treated with antibiotics had been tested.

Danger of repeat prescriptions

Guidelines by NICE state that if antibiotics do not successfully treat an infection and symptoms persist, patients should not be prescribed the same antibiotic again, to reduce the potential for antibiotic resistance and treatment failure.

When people are treated for an infection with antibiotics, some of the friendly bacteria that usually live in the body develop resistance to the antibiotics. These bacteria can pass on resistance to other bacteria that might cause infections in the future, making those new infections more difficult to treat.

In their study, researchers looked at nearly 500,000 cases of UTIs in patients in England, treated between 2011 and 2015. The majority of patients were treated with antibiotics, and of those, 17,000 (4%) cases required patients to return to their doctor because their infection had not cleared up.

For those repeat visitors, a significant proportion were prescribed the same antibiotic they were treated with originally, with just 80 per cent correctly given a different antibiotic capable of tackling their [infection](#).

Worryingly, the rate at which male patients had to return for a second treatment for the same UTI increased by about 20% over the study period (from 5.2% in 2011 to 6.2% in 2015).

This increase in re-prescribing of antibiotics needs to be monitored, as it could be related to an increase in antibiotic resistance.

Researchers also found that patients who had been prescribed antibiotics more recently were more likely to need further treatment to tackle their UTI.

Patients who had been prescribed antibiotics in the past three to six months were 37% more likely to require a second treatment for their UTI, compared with those who had not been given antibiotics in the last year.

Those who had been prescribed antibiotics in the past one to three months were nearly twice as likely to need a second treatment. And those prescribed antibiotics in the past month were more than three times more likely to need a second treatment, compared to those who had not been given antibiotics in the last year.

According to the researchers, these figures all suggest that antibiotic resistance was the cause of treatment failure.

More information: Mar Pujades-Rodriguez et al. Lower Urinary Tract Infections: Management, Outcomes and Risk Factors for Antibiotic Re-prescription in Primary Care, *EClinicalMedicine* (2019). DOI: [10.1016/j.eclinm.2019.07.012](https://doi.org/10.1016/j.eclinm.2019.07.012)

Provided by University of Leeds

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