

# Treating travellers' diarrhoea with antibiotics can promote the spread of drug-resistant "super-bacteria"

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Each year, more than 300 million tourists visit areas with low standards of hygiene. A recent Finnish study shows that about one-fifth of these travellers return home with an unwanted companion, a drug-resistant intestinal bacterium.

"The risk of being infected with a drug-resistant intestinal bacterium increases considerably if the traveller develops diarrhoea and particularly if he or she uses [antibiotics](#) to treat it," says Docent Anu Kantele of Helsinki University Central Hospital, an infectious disease specialist who led the study published in the journal *Clinical Infectious Diseases*.

For example, 23% of travellers who visited the Indian peninsula were found to carry ESBL, a drug-resistant bacterium, in their systems when they returned home, even if they had remained healthy during their trip. Of those who developed diarrhoea, 47% carried the bacterium, while the figure rose to as high as 80% among those who had treated their diarrhoea with antibiotics.

"The situation is almost as bad in Southeast Asia as it is in India. The African continent, the Middle East and East Asia also emerged as high-risk regions, but the number of carriers who had visited these areas was considerably lower," Kantele explains.

Most travellers infected with ESBL do not know that they are carrying it,

but for some the bacteria may cause a severe, even life-threatening infection. However, carriers without symptoms may also spread the bacteria to others, who may become seriously ill. The bacteria may also end up in hospitals, which are already struggling with [antibiotic resistance](#).

"We must also consider the global implications: antibiotic resistance is one of the most significant threats to modern health care, and the spread of resistant bacterial strains makes the situation even more difficult," Kantele says.

She continues: "Few new antibiotics are on the horizon, so we should safeguard the ones we have – most importantly, by stopping their excessive use."

Kantele also says that travellers should be advised to take a more cautious approach to using antibiotics. They are usually unnecessary in the treatment of [diarrhoea](#). The most important thing to remember is to drink a sufficient amount of liquids. Symptoms can also be alleviated with non-antibiotic drugs, such as loperamide, which is sold in pharmacies.

"A high fever, serious dehydration and bloody stools are symptoms that warrant a visit to the doctor," Kantele stresses.

The study examined 430 Finns who had travelled outside Scandinavia. The stool samples taken from the participants before and after their travel were analysed to establish how many had been infected with one of the drug-resistant intestinal bacteria under investigation (ESBL- and carbapenemase-producing Enterobacteriaceae, or CPE). The survey also explored the [travellers'](#) antibiotic use and other potential risk factors.

**More information:** Anu Kantele, Tinja Lääveri, Sointu Mero, Katri

Vilkman, Sari H. Pakkanen, Jukka Ollgren, Jenni Antikainen and Juha Kirveskari: "Antimicrobials Increase Travelers' Risk of Colonization by Extended-Spectrum Betalactamase-Producing Enterobacteriaceae." *Clinical Infectious Diseases*. January 22, 2015

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