

'Holy' springs and holy water in Austria is badly contaminated

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Water from "holy" springs in Austria is contaminated with faecal matter and nitrates and is not classed as safe for drinking. The water used in fonts in churches and hospital chapels also contains high amounts of bacteria. These are the key findings of a study by the Institute of Hygiene and Applied Immunology at the MedUni Vienna, which microbiologist Alexander Kirschner will be presenting at the Vienna Hygiene Further Education Days next Monday (16.9).

Researchers analysed the water quality in a total of 21 "holy" springs – similar to those that attract huge numbers of visitors in Lourdes – in

Vienna, Lower Austria and Burgenland, as well as 18 fonts in churches and hospital chapels in Vienna at various times of the year.

The result: only 14 per cent of the [water samples](#) from holy sources demonstrate no faecal contamination, and none of the springs investigated could be recommended as a source of drinking water. These springs contained not only faecal contamination with E coli bacteria and enterococci, but also Campylobacter, which can cause inflammatory [diarrhoea](#). Many of the springs were also especially contaminated with [nitrates](#) from agriculture. "We need to warn people against drinking from these sources," says the microbiologist from the MedUni Vienna. He recommends that the responsible authorities and priests put up [warning signs](#) and display the history of the holy springs.

Healing effect of holy springs no longer holds true

This is because the healing effect ascribed to holy sources is based on history and the hygiene conditions of the Middle Ages. Says Kirschner: "In those days, the quality of the water in towns and cities was generally so poor that people were constantly developing diarrhoea or other diseases as a result. If they then came across a protected spring in the forest that was not as polluted and drank from it for several days, their symptoms would disappear. So although in those days they were drinking healthier water, given the excellent quality of our drinking water today, the situation is now completely reversed."

Holy water heavily contaminated with bacteria

The holy water investigated as part of the study exhibited high levels of bacteria throughout. Says Kirschner: "In one millilitre, up to 62 million cultivatable bacteria were detected." These included faecal bacteria – transferred as a result of poor toilet hygiene, for example. "The more

well-attended the church, the more bacteria were found. This may represent a problem that has hitherto been underestimated, especially in hospitals, since there a lot of people with weakened immune systems there," says the MedUni Vienna expert.

While the study on holy springs is the first of its kind worldwide, there have been three earlier studies on font water, one of which was carried out by Spanish researchers in Seville. Says Kirschner: "The results are very similar."

There are ideas and possible solutions for the more hygienic use of font water and holy springs: one Italian priest, for example, invented a holy water dispenser a few years ago that dispenses drops of holy water. Previous studies have shown that a higher salt content (recommended level 20 per cent) in the holy water blessed exclusively during the Easter vigil can halt the proliferation of bacteria. Says Kirschner: "The addition of salt cannot be regarded as a reliable means of disinfection, however." The MedUni Vienna researcher instead recommends replacing the holy water in churches on a regular basis. In the case of holy springs, local authority checks of the water quality would be advised, along with suitable structural measures if the spring is actually to be used as a source of drinking [water](#).

More information: Kirschner, A. et al. Holy springs and holy water: underestimated sources of illness? *Journal of Water and Health*, 10.3/2012. www.ncbi.nlm.nih.gov/pubmed/22960479

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