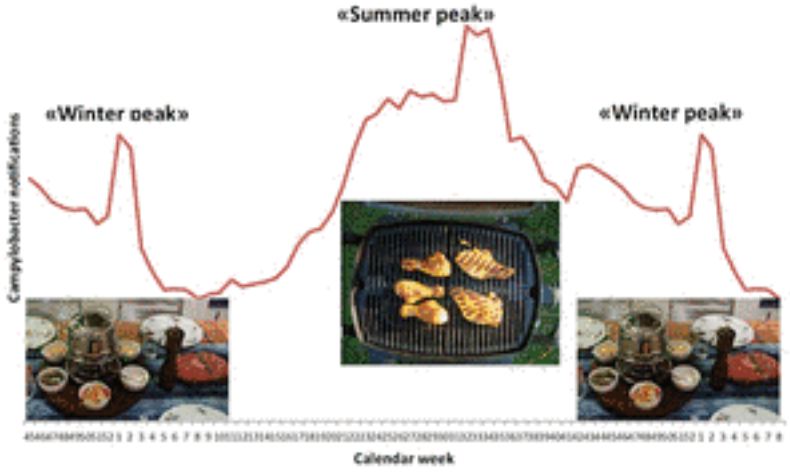
Chicken Causes More Than 7K Swiss Illnesses A Year

Swiss Tropical and Public Health Institute

In Switzerland, between 7000 and 8000 persons fall ill with a campylobacter infection annually. This makes it the most frequent bacterial disease transmitted through food. Contamination of chicken meat with campylobacter bacteria during the slaughtering process is one of the known causes of the infection. An increase of campylobacteriosis case numbers is being observed throughout Europe. Human cases of campylobacteriosis must be reported to the relevant authorities in Switzerland.



In Switzerland, an unusual increase in campylobacteriosis case numbers can be observed in the period around Christmas and New Year. Therefore, the Swiss Federal Office of Public Health, in agreement with the Swiss Federal Food Safety and Veterinary Office has commissioned Swiss TPH to perform a case control study in order to investigate this increase over the festive season.

"We are relying on data subject to reporting and telephone interviews with affected persons for this", study leader Daniel Mäusezahl of Swiss TPH says.

The researchers interviewed affected persons who had fallen ill with a campylobacter infection between December 2012 and February 2013. An independent laboratory examination had confirmed a campylobacter infection in all interviewed persons. The focus of the interviews was on risk factors, the consultation of a doctor and the course of the illness experienced by the affected persons.

Fourfold increased risk when consuming a meat fondue

The study identified two factors for an increased risk of infection with campylobacter pathogens. On the one hand, the risk of infection increased by a factor of four when consuming Fondue chinoise. About half of the notified campylobacteriosis cases over the Christmas and New Year period can be attributed to this source of infection.

The study also shows that the risk of infection can be decreased by hygienic measures at the table. As soon as the meat fondue consumers used compartmented or separate plates for raw and cooked meat, the risk of an infection decreased by a factor of up to five. Likewise, the risk of an infection decreased when consuming meat that had been previously frozen. "Campylobacter infections among consumers could be avoided to a large extent by employing the appropriate hygiene behaviour measures", Daniel Mäusezahl says.

Another risk factor for a campylobacter infection identified by the study was travelling abroad over the Christmas season. However, persons returning from a trip with diarrhoea are tested more frequently for infection which might also explain this increased finding.

No harmless illness

Campylobacter infections are experienced as a severe illness by affected persons. On a scale from 1 "harmless" to 10 "very severe", half of the patients had rated the subjectively experienced symptoms with 8 or more points. Persons who have fallen ill primarily complained of diarrhoea (98 percent), abdominal pain (81 percent), fever (66 percent), nausea (44 percent) and vomiting (34 percent). The patients stated an average duration of illness of seven days; about 15 percent were hospitalised.

Worldwide problem

The contamination of chicken meat with campylobacter bacteria is a worldwide problem in the poultry industry with consequences for public health. In some European countries and in the USA, poultry meat from infected flocks is therefore only sold frozen or after being treated, e.g. with peroxyacetic acid. Microbiologists are also discussing the preventive use of bacterial viruses (so-called phages) as a possible measure to combat the illness. With this method, campylobacter pathogens can be fought biologically and the risk of infection for humans can also be decreased.

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