

SARS-CoV-2 and Food-Borne Diseases in Germany

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INTRODUCTION

The SARS-CoV-2 outbreak in 2020 and in the first half of 2021 significantly changed the notified case numbers of most infectious diseases in Germany. The Robert Koch Institute reported that on average, case numbers went down by 35 % in 2020 in comparison to 2019. Measures taken to contain the SARS-CoV-2 pandemic such as travel restrictions, the closure of schools and kindergartens, remote working, distancing rules, contact restrictions and hand hygiene were identified as factors lowering the incidence rate. In this study, the impact of the SARS-CoV-2 pandemic in Germany on the reported case numbers of ten infectious diseases with a food-borne character was analysed.

METHODOLOGY

Weekly reported case numbers for listeriosis, campylobacteriosis, salmonellosis, EHEC, yersiniosis, hepatitis A and E, norovirus infections, giardiasis, cryptosporidiosis and SARS-CoV-2 were collected for 2019, 2020 and the first half of 2021. Cumulative case numbers of food-borne diseases for each year were plotted and trends compared.

RESULTS

The cumulative case numbers of campylobacteriosis, salmonellosis, EHEC, hepatitis A, norovirus, giardiasis and cryptosporidiosis in 2020 were between 24 % and 64 % lower than in 2019. A closer look at the trends for the weekly case numbers revealed that in 2020 the usual summer peak in the curve for notified case numbers of salmonellosis was almost flattened, whereas this was not the case for campylobacteriosis cases. The total lack of the typical winter peak for norovirus cases in 2020/2021 was noteworthy. However, when contact restrictions were relaxed in Germany in May 2021, the number of notified cases of norovirus infections quickly rose to the same level as in the pre-pandemic year 2019. For listeriosis, yersiniosis, and hepatitis E, the number of notified cases in 2020 and in the first half of 2021 stayed at approximately the same level as in 2019.

DISCUSSION

The measures taken to contain the SARS-CoV-2 pandemic in Germany in 2020 and 2021 significantly influenced the occurrence of several food-borne diseases. The differences observed invite epidemiological conclusions on typical exposure pathways to be drawn. For example, it seems that infections with *Listeria monocytogenes*, *Yersinia enterocolitica* and hepatitis E in Germany are directly caused by the consumption of contaminated foods. Most norovirus infections seem to be caused by person-to-person or person-to-food-to-person transmission. With restrictions on meetings and the closure of restaurants and canteens, only very few norovirus infections were recorded in winter 2020/2021. The varying campylobacteriosis and salmonellosis case numbers during the summer of 2019 compared to the summer of 2020 are interesting. For example, environmental exposure may cause some of the campylobacteriosis cases. For the bacterial agent *Salmonella* spp., growth in a food like potato salad at a summer party seems to be an important driver which did occur less often during the pandemic. Epidemiological knowledge drawn from the data analysis can be useful to inform future risk management measures to counteract food-borne diseases.