Suspected foodborne disease outbreak, Limpopo Province

On 05 April 2018, Sekhukhune District Department of Health (DoH), Limpopo Province, in collaboration with the Municipal Environmental Health and Provincial DoH, investigated a suspected foodborne illness involving eight family members, including one death in a 10-year-old boy. The age of the cases ranged from 3 – 64 years (median 12 years). The other seven presented to the health facility on 05 April 2018 following the death of their family member. They presented with gastrointestinal symptoms such as diarrhoea, abdominal cramps, as well as loss of appetite, fever, rigors and muscle pains. Symptoms were experienced approximately 4 hours following consumption of dinner (pap and chicken neck) on 04 April 2018. Rectal swab samples were collected from five cases. Environmental investigations were conducted and food samples were sent for testing. A postmortem was performed on the deceased.

Staphylococcus aureus was isolated from two cases (2/5, 40%); and S. aureus and Clostridium perfringens were isolated from one case (1/5, 20%). Rectal swab results for two cases were negative. Blood culture taken >24 hours from the deceased grew Enterococcus faecalis, Klebsiella pneumoniae and Escherichia coli. The other postmortem findings, and findings from the environmental samples, are still pending at the time of this report.

Staphylococcal food poisoning occurs when foods contaminated with toxins produced by the S. aureus bacterium are ingested. Staphylococcal toxins are fast-acting, with symptoms (vomiting, nausea, abdominal cramps and diarrhoea) usually developing within 30 minutes to 6 hours (https://www.cdc.gov/foodsafety/diseases/staphylococcal.html). The reported 4-hour incubation period is compatible with the incubation period for toxin-producing S. aureus food poisoning. This may have been a staphylococcal food poisoning outbreak. However, without further testing for the toxins of both S. aureus and C. perfringens, and unavailable results from the food samples, we cannot definitively implicate an organism. The cause of death may have been unrelated to the food consumed.

This outbreak investigation highlights the importance of presenting early at health facilities following suspected food poisoning. Poor food-handling practices are often linked to foodborne related outbreaks. This can be addressed by intensifying food safety practices through health promotion activities in communities and institutions. Healthcare workers are reminded that a foodborne illness outbreak (food poisoning) refers to any food poisoning incident involving two or more individuals that are epidemiologically linked to a common food/beverage source. A suspected foodborne disease outbreak constitutes a category A notifiable medical condition in South Africa, and must be reported to the relevant health authority telephonically within 24 hours for appropriate public health response to occur.

Source: Limpopo Provincial Department of Health; NICD Provincial Epidemiology Team, Division of Public Health Surveillance and Response, NICD-NHLS; outbreak@nicd.ac.za