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Original Article

An Outbreak of Foodborne Gastroenteritis in an Environmental Education Activity, Taoyuan, 2020

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Abstract

On August 13, 2020, around 120 people in an inspection team in Taoyuan City developed gastrointestinal illnesses after an environmental education activity in Hualien. The Field Epidemiology Training Program of the Taiwan Centers for Disease Control conducted an epidemiological investigation to clarify the scale, source, transmission route, and causative agent of this outbreak.

We conducted a case-control study. The case was defined as those who participated in this activity and had any two of the following symptoms: diarrhea, abdominal pain, vomiting, or nausea after lunch on August 13th. We collected 249 valid questionnaires, of which 128 (52%) met the case definition. The most prevalent symptoms were diarrhea (94%), abdominal pain (69%), vomiting (66%), and nausea (63%). The distribution of onset time indicated a single source of infection, with a median incubation period of 32 hours (range: 8–72 hours). We interviewed other customers in Restaurant A and found

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that they also had gastrointestinal illnesses, so the lunch at Restaurant A was suspected as the infection source. The patients and food handlers from restaurant A were all tested positive for norovirus. After comparing the viral gene sequences, we found the similarity of nine specimens was 100%. The univariate analysis of the dishes showed that "Two-in-one seafood cold plate" (OR 3.73, 95% CI 1.62–8.59), "Trotters with bamboo shoots" (OR 2.62, 95% CI 1.16– 5.90), and "Seafood with sesame oil" (OR 2.76, 95% CI 1.29–5.91) were associated with illness.

We concluded that it was a foodborne outbreak caused by norovirus transmitted through the lunch provided by Restaurant A. We recommend that food handlers maintain hand hygiene and suspend working in the kitchen if gastrointestinal symptoms develop. Health authorities can actively collect information from other customers who have dined in the same restaurant, not only the restaurant of the last meal, to early identify the suspected meals.

Keywords: Diarrhea, food poisoning, norovirus, epidemiological investigation